SAWTOOTH NATIONAL FOREST LAND AND RESOURCE MANAGEMENT PLAN

United States Department of Agriculture

Forest Service

September 2010

FIVE YEAR MONITORING AND EVALUATION REPORT FY 2004 – 2008

ANNUAL MONITORING REPORTS FY2009 and 2010

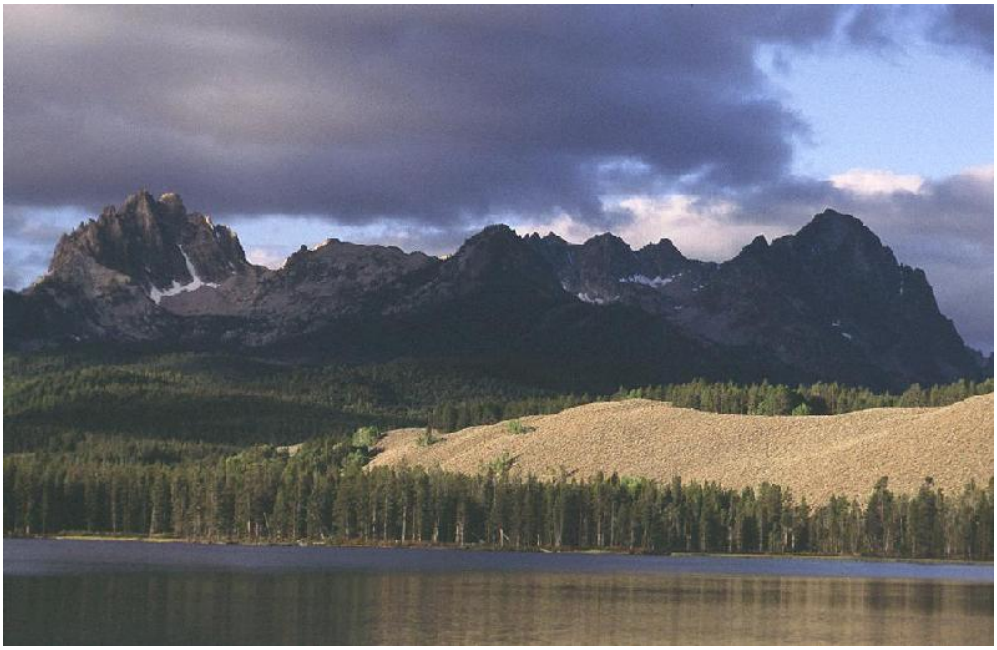

Photo by David Ede

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I. INTRODUCTION

In September 2003, the Forest began implementing its revised Land and Resource Management Plan (Forest Plan). The revised Forest Plan defines a strategy that manages Forest resources to attain a set of desired resource and social and economic conditions by emphasizing the maintenance or restoration of watershed conditions, species viability, terrestrial and aquatic habitats, and healthy, functioning ecosystems. Monitoring and evaluation are critical to determining if we are attaining desired goals. In accordance with the regulations at 36 CFR 219.12(k): "At intervals established in the plan, implementation shall be evaluated on a sample basis to determine how well objectives have been met and how closely management standards and guidelines have been applied. Based upon this evaluation, the interdisciplinary team shall recommend to the Forest Supervisor such changes in management direction, revisions, or amendments to the Forest Plan as are deemed necessary."

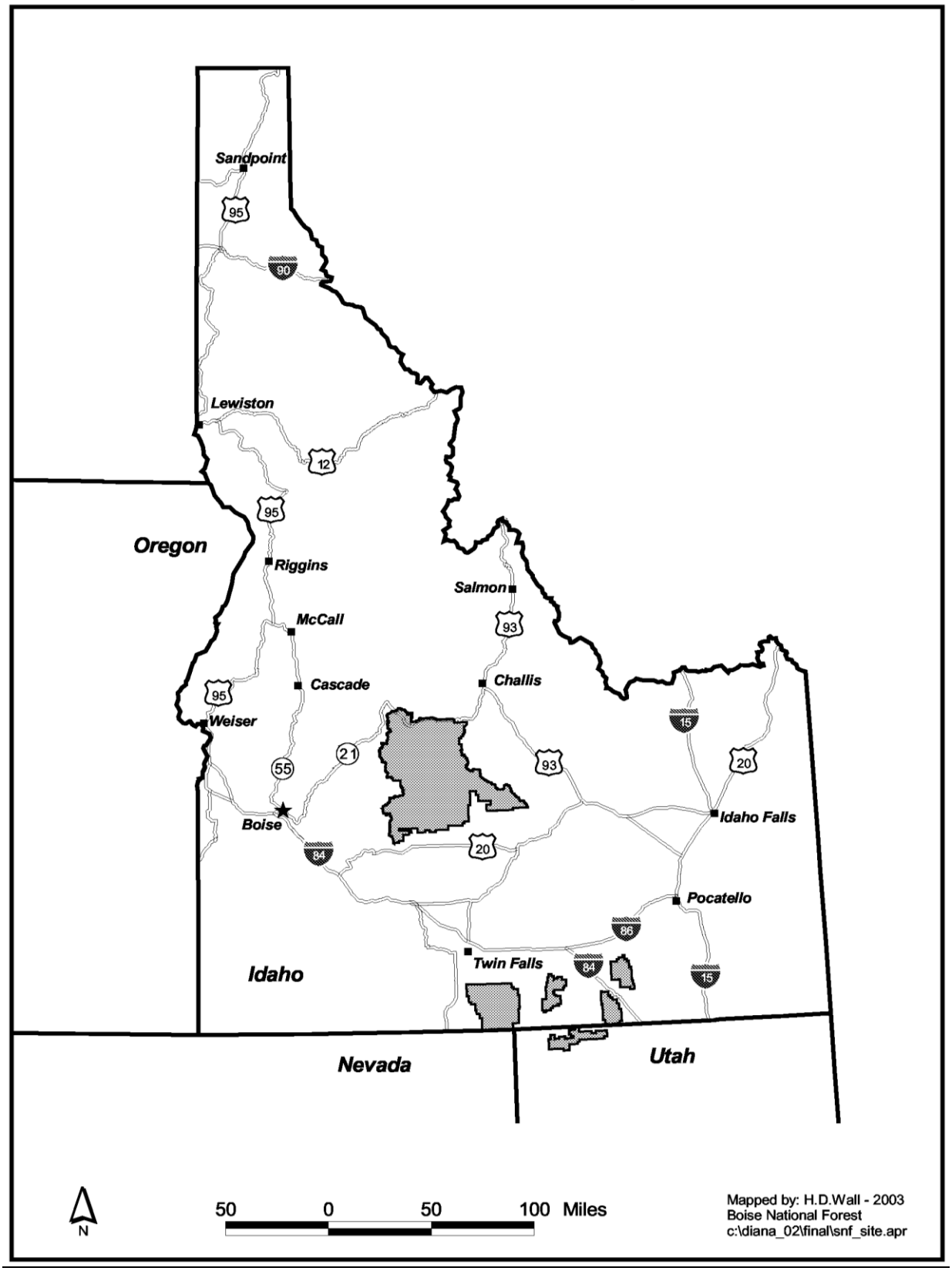
Chapter IV of the 2003 Forest Plan establishes that the formal evaluation and reporting will occur every 5 years. 2008 marked completion of the first five years of implementation under the 2003 revised Forest Plan, triggering a formal review. The intent of the 5-year review is to provide a comprehensive evaluation of information in response to monitoring questions depicted in Table IV-2 and regulatory review requirements depicted in Table IV-1.

The five-year review provides an evaluation of the information gathered over the first five years[1] of plan implementation. Evaluation is more than reporting facts and figures. Forest plan evaluation tells how Forest Plan decisions have been implemented, how effective the implementation has proved to be in accomplishing desired outcomes, what we learned along the way, and how valid our assumptions are that led us to decide what we did in the plan. In short, the five-year monitoring and evaluation report is critical to evaluating whether there is a "need to change" our Forest Plan. As such, the five-year monitoring report includes a discussion of the results of the data gathered over the first five years of plan implementation, how that data relates to accomplishment of a sampling of Forest Plan objectives, and finally whether that information indicates a need for change in Forest Plan direction.

In addition to completion of the 5-year report, the Forest still must meet its annual monitoring requirements. Therefore, this report discloses the results of annual monitoring for 2009 and 2010 as well as the results of the 5-year monitoring and evaluation requirements.

[1] For some monitoring elements, the evaluation includes analysis of data gathered through 2009.

Figure I-1. Location Map – Sawtooth National Forest



II. FOREST PLAN MONITORING and EVALUATION REPORT ORGANIZATION

Chapter IV of the Forest Plan identifies elements related to National Forest Management Act (NFMA) and other pertinent laws and regulations that are reported on an annual or every 5 years basis. As previously discussed, this monitoring report will report on both the annual monitoring requirements for 2009 and 2010 as well as the elements with 5-year monitoring and evaluation reporting requirements. Organizationally, this monitoring report is divided in to two main sections, Section III which reports on the 2009 and 2010 annual monitoring results, and Section IV which reports the 5-year monitoring and evaluation results.

Table IV-1 in the Forest Plan identifies the regulatory monitoring elements that must be reported on an annual basis or five year basis. Section III-A of this monitoring report will report on those elements in Table IV-1 with a "yes" in the "Annual Posting of Results" column.

Table IV-2 of the Forest Plan identifies questions and indicators that will be monitored annually to determine the success of the Forest Plan management strategy in progressing toward desired conditions. Similar to Table IV-1, only the monitoring questions and their related indicators with annual in the "Report Period" column will be addressed in Section III-B below.

Section IV of this monitoring report summarizes the results of the 5-year monitoring and evaluation work. Section IV-A of this monitoring report will report on those elements in Table IV-1 with 5-year reporting requirements. Section IV-B will report on those elements in Table IV-1 with a "5-year" in the "Report Period" column.

III. SUMMARY OF 2009 and 2010 MONITORING RESULTS:

III-A. Annual Monitoring Requirements – Table IV-1:

Monitoring requirements identified in the Forest Plan shall provide for:
1. A quantitative estimate of performance comparing outputs and services with those projected by the Forest Plan.

As defined in the Forest Plan, Objectives are "concise time-specific statements of actions or results designed to help achieve goals". As such, objectives provide the best projection of outputs and services to be provided through implementation of the Forest Plan. Forest Plan objectives are found under the various Forest-wide Resources sections in Chapter III of the Forest Plan. Following is a summary of the Forest's accomplishments for those objectives designed to provide for specific services on an annual basis, and/or projected outputs resulting from management actions. Other objectives found in the various sections of the Forest Plan that did not require an annual accomplishment are *not* discussed in this monitoring report.

The objectives addressed below are organized by resource section as they are found in the Forest Plan. Those resource sections in the Plan that do not contain objectives that are reported on annually will be noted below.

Threatened, Endangered, Proposed and Candidate Species Objectives (FLRMP pages III-8 to III-11)

Objective TEOB01 - *Continue to map and update locations of species occurrence and habitat for TEPC species during fine- or site/project-scale analyses. Incorporate information into a coordinated GIS database and coordinate with the Idaho Conservation Data Center.*

Accomplishment:
2009 - TEPC and sensitive aquatic organism information from project analyses, field inventories, and monitoring were entered into the Natural Resource Information System (NRIS) in 2009. This information was used to develop spatial coverages that display species distribution for wood river sculpin, northern leatherside chub, westslope and Yellowstone cutthroat trout, bull trout, Chinook salmon, and steelhead trout. Data has yet not been shared with the Idaho Conservation Data Center.

TEPC and Sensitive Terrestrial Wildlife Species information from fine- or site/project-scale analyses were entered into the Natural Resource Information System in 2009. This information is and will be used during project analysis and for long-term population and habitat trend predictions. Data sharing to and from the Idaho Conservation Data Center is done on an annual basis.

2010 - TEPC and sensitive aquatic organism information from project analyses, field inventories, and monitoring were entered into the Natural Resource Information System (NRIS) in 2010.

TEPC and Sensitive Terrestrial Wildlife Species information from some fine- or site/project-scale analyses were entered into the Natural Resource Information System in 2010. This information is and will be used during project analysis and for long-term population and habitat trend predictions.

Objective TEOB03 - *Identify and reduce road-related effects on TEPC species and their habitats using the Watershed and Aquatic Recovery Strategy and other appropriate methodologies.*

Accomplishment:
2009 - In addition to annual road maintenance, nine projects reduced road related effects within aquatic TEPC subwatersheds. Twenty miles of non-system roads were decommissioned in the headwaters of Little Smoky Creek in the S.F. Boise subbasin, 29.6 miles of non-system roads were decommissioned in the headwaters Goose Creek, 3 miles decommissioned in Upper Warm Springs and Deer Creek in the Big Wood River subbasin, and 1.5 miles of non-system routes were decommissioned in Beaver Creek in the Upper Salmon subbasin. Heavy maintenance and placement of drainage culverts also took place in

Upper Willow Creek (Camas Creek subbasin), Eagle and Deer Creeks (Big Wood subbasin), and Copper Creek (Little Wood subbasin).

The road activities mentioned in the above response relative to aquatic resources also reduced negative effects on TEPC and Sensitive Terrestrial Wildlife Species. Road decommissioning is especially important to terrestrial wildlife. This action increases habitat connectivity, increases security, decreased disturbance to behavioral activities, and decreases mortality from road related activities.

2010 - In addition to annual road maintenance, four projects reduced road sediment effects within aquatic TEPC subwatersheds. Thirty miles of non-system roads were decommissioned within select drainages within the S.F. Boise subbasin and 9 miles of non-system routes were decommissioned in Beaver Creek in the Upper Salmon subbasin. A culvert was placed on the 010 road ford in an unnamed tributary of Boardman Creek in the S.F. Boise subbasin to reduce sediment. Nine miles of the Ketchum-Featherville Road were reconstructed. This road is adjacent to the S. F. Boise River for much of its length that supports bull trout. This project reduced sediment by removing a road berm, replacing the road's surface with crushed rock, establishing a crowned road prism to provide better drainage, and using imported binder and dust abatement to stabilize the native material within the road template.

Objective TEOB11 - *Update appropriate NRIS database modules for TEPC species and their habitats on a biennial basis to incorporate latest field data.*

Accomplishment:
2009 - In 2009, all data from biological surveys in the Upper Salmon and S.F. Boise subbasins where T&E species are present were entered into NRIS water.

In 2009, TEPC and Sensitive Terrestrial Wildlife Species occurrence and other related field data were entered into the NRIS database.

2010 - In 2010, all data from biological surveys in the Upper Salmon and S.F. Boise subbasins where T&E species are present were entered into NRIS water.

Objective TEOB22: *Develop operational resources (maps, keys, desk guides, etc.) within 1 year of signing the ROD, to coordinate TEPC species concerns and practical mitigations, and include those resource tools in the Fire Management Plan. Consult with NMFS and USFWS on operational resources on an annual basis.*

Accomplishment:
2009 - Fire operational guidelines were originally developed in the spring of 2004. The guidelines included protective measures for wildlife, botanical, and aquatic resources. In 2006, the Boise NF and Sawtooth NF completed a Programmatic Biological Assessment (BA) for Wildfire Suppression and Wildland Fire Use activities that incorporated and improved upon the 2004 guidance. This BA was submitted for informal consultation, which concluded with letters of concurrence from the FWS and NOAA on 08-11-2006 and 08-30-

2006, respectively. In 2009 guidance on the reporting and monitoring of fire retardant was finalized.

2010 - In 2010, the Forest continued to implement the programmatic consultation direction during the Deer Park fire in the S.F. Boise subbasin and began to revise guidance for an updated fire suppression consultation to be completed in 2011.

AIR QUALITY AND SMOKE MANAGEMENT Objectives (Forest Plan, page III-16)

This section contains no annual accomplishment requirements.

SOIL, WATER, RIPARIAN AND AQUATIC RESOURCES Objectives (Forest Plan, pages III-19 to III-21)

Objective SWOB11: *Coordinate with state and local agencies and tribal governments annually to limit or reduce degrading effects from stocking programs on native and desired non-native fish and aquatic species.*

Accomplishment:
2009 - No coordination meetings relative to fish stocking occurred in 2009.

2010 - No coordination meetings relative to fish stocking occurred in 2010.

Objective SWOB16 - *During fine-scale analysis, identify opportunities to restore degraded upland and aquatic habitat conditions in order to support productive and diverse populations of native and desired non-native aquatic species to meet social needs and tribal interests. Opportunities should focus on restoring passage for fish and other aquatic species, and restoring desired ranges of water temperature, large woody debris, streambank stability, sediment levels, water chemistry, and pool size and numbers.*

Accomplishment: Numerous projects with objectives to reduce sediment or improve bank stability, wood debris, and pools were completed across the Forest. Accomplishments are reflected in Table 5 under the monitoring question on the implementation of the WARS strategy in this report.

WILDLIFE RESOURCES Objectives (Forest Plan, pages III-25 to III-26)

This section contains no annual accomplishment requirements.

VEGETATION RESOURCES Objectives (Forest Plan, page III-30)

This section contains no annual accomplishment requirements.

BOTANICAL RESOURCES Objectives (Forest Plan, pages III-32 to III-33)

Objective BTOB04: *Maintain annually a list of Forest Watch plants that identify species of concern (see Appendix C for list of species).*

Accomplishment:
2009 - One species, Botrychium simplex, was added to the Forest Watch list in 2009.

2010 - In 2010, substantive changes were made to the Regional Forester's Sensitive plant species to reflect species with high conservation concern that were not currently covered, as well as nomenclature changes to reflect current taxonomic understanding of taxa. In accordance with this, the Forest updated the Forest Watch plant species list.

Plant species added:

Tall Swamp Onion
Grouse Creek rockcress
Armed prickly-poppy
Challis milkvetch
Park milkvetch
Sand/shasta sedge
Mt. Shasta sedge
Malheur cryptantha
Yellowstone draba
Blandow's helodium
Simpson's hedgehog cactus
Kruckeberg's Sword fern
Silvery/Jones' primrose
Farr's willow
Wedge-leaf saxifrage
Nodding saxifrage
Petal-less campion
Lithion Violet

In addition to the above, previously Forest Watch listed plant species Prairie moonwort was removed and Least moonwort and Beautiful bryum moss were moved to the Regional Forester's Sensitive plant species list. Currently, the Forest has 24 Watch plant species that are tracked and analyzed on a site/project scale. All new occurrences are recorded and information is shared with Idaho Conservation Data Center.

NON-NATIVE PLANTS Objectives (Forest Plan, pages III-35 to III-36)

Objective NPOB03: *Develop strategic noxious weed management plans for Coordinated Weed Management Areas. Cooperate on a regular basis with federal agencies, tribal governments, the State of Idaho, county weed organizations, state and local highway departments, and private individuals in establishing Coordinated Weed Management Area strategic priorities, and locating and treating noxious weed species.*

Accomplishment:

Table 1. Noxious Weed Acres Infested and Treated: 2004 - 2010, by District

Year	Minidoka		Ketchum		SNRA		Fairfield		Forest	
	Infested	Treated	Infested	Treated	Infested	Treated	Infested	Treated	Infested	Treated
2004	685	377	1,335	746	3,169	741	10,124	1,942	15,313	3,806
2005	2,922	452	791	247	1,530	331	10128	3,508	15,371	4,538
2006	N/A	583	N/A	512	N/A	314	N/A	2,807	N/A	4,216
2007[1]	15,133	610	1,683	494	9,112	690	14,475	2,073	40,383	3,867
2008[1]	8,633	722	2,340	1550	14,047	1419	14,475	1276	39,496	4,967
2009[1]	8,633	826	2,340	1,922	14,048	1226	14,475	2,200	39,497	6,174
2010	8,633	1,262	2,340	1,340	14,048	854	14,475	3,216	39,497	6,672

N/A = Not available at the time because not all records had been entered into the NRIS Terra Invasives database.

[1] Infestation data from NRIS Invasives Database. Treatment data from FACTS database.

FIRE MANAGEMENT Objectives (Forest Plan, pages III-38 to III-39)

Objective FMOB04: Schedule and complete at least 40,000 acres of fuels management through prescribed fire and mechanical treatments in the next decade to achieve desired vegetation attributes and fuel reduction goals. Focus on wildland/urban interface and areas in Fire Regimes 1, 2, and 3 (non-lethal, mixed1, mixed2) in Condition Classes 2 and 3 (moderate to extreme hazard rating).

Accomplishment:

2009 - In FY 2009, the Sawtooth National Forest treated 4,614 acres of fuels management through prescribed fire and mechanical treatments. This also included Wildland Fire Use (WFU) treatments. Prescribed fire was implemented on 1,591 acres and mechanical treatments which included thinning and piling activities occurred on 2,974 acres. The Alpine WFU fire treated 49 acres. Approximately 1,304 acres or 28% of the treatments occurred in Wildland Urban Interface (WUI) designated locations.

2010 - In FY10, the Forest treated 1,823 acres in non-wildland urban interface (Non-WUI) and 837 acres in WUI with prescribed fire. Mechanical treatment was used to treat 1,111 acres in Non-WUI and 996 acres in WUI. Approximately 1,096.5 acres of fire-use was also accomplished with the Deer Park, Lookout and King Creek Fires, for an accomplishment of 5,862 acres.

TIMBERLAND RESOURCES Objectives (Forest Plan, pages III-42 to III-43)

Objective TROB01: *Provide timber harvest, and related reforestation and timber stand improvement activities, to contribute toward the attainment of desired vegetation conditions. Annually, during the next 10 to 15 years:*

a) Harvest timber, other than by salvage, on an average of approximately 2,000 acres,
b) Reforest an average of approximately 480 acres, and
c) Complete timber stand improvement activities on an average of approximately 300 acres.

Accomplishment:
2009:
a) Timber harvest other than by salvage was completed on 68 acres;
b) Reforestation occurred on 110 acres; and
c) Timber stand improvement activities were completed on 135 acres

2010:
a) Harvested timber, other than by salvage, on 15 acres;
b) Reforestation on 250 acres; and
c) Timber stand improvement activities were completed on 218 acres

Objective TROB02: *Make available an estimated 60 million board feet of timber for the decade, which will contribute to Allowable Sale Quantity (ASQ).*

Accomplishment:
2009 - In 2009, the Sawtooth National Forest made available 1.9 million board feet (MMBF) of timber (1.9 MMBF of salvage and 0.0 MMBF of green) which contributed to the ASQ.

2010 - In 2010, the Sawtooth National Forest made available 2.9 million board feet (MMBF) of timber (1.2 MMBF of salvage and 1.7 MMBF of green) which contributed to the ASQ.

Objective TROB03: *Utilize wood products (e.g., fuelwood, posts, poles, house logs, etc.) generated from vegetation treatment activities, on both suited and not suited timberlands, to produce an estimated 69 million board feet of volume for the decade. This volume, when combined with ASQ, is the Total Sale Program Quantity (TSPQ). The TSPQ for the first decade is estimated to be 129 million board feet.*

Accomplishment:
2009 - In 2009 the Sawtooth National Forest made available 4.4 million board feet (MMBF) of wood products (3.7 MMBF in personal use firewood and 0.7 MMBF in free use firewood). When combined with the 1.9 MMBF contributing to ASQ (i.e. TROB02), the Sawtooth National Forest made available 6.3 MMBF that contributed to the TSPQ.

2010 - In 2010, the Sawtooth National Forest made available 3.9 million board feet (MMBF) of wood products (.07MMBF in post and poles, 3.83 MMBF in personal use firewood and 1.2 MMBF in free use firewood). When combined with the 2.9 MMBF contributing to ASQ (i.e. TROB02), the Sawtooth National Forest made available 8 MMBF that contributed to the TSPQ.

RANGELAND RESOURCES Objectives (Forest Plan, page III-44)

This section contains no annual accomplishment requirements.

MINERALS AND GEOLOGY RESOURCES Objectives (Forest Plan, pages III-48 to III-49)

This section contains no annual accomplishment requirements.

LANDS AND SPECIAL USES Objectives (Forest Plan, page III-53)

This section contains no annual accomplishment requirements.

FACILITIES AND ROADS Objectives (Forest Plan, pages III-58 to III-59)

Objective FROB11: *In the Forest's annual program of work, prioritize and schedule improvements to existing culverts, bridges, and other stream crossings to accommodate fish passage, 100-year flood flow, and bedload and debris transport. Include accomplishments in the biennial update of the Watershed and Aquatic Recovery Strategy (WARS) database.*

Accomplishment:
2009 - In 2009, an old native log bridge was removed and replaced with a new bridge across Valley Creek on Rd. #70304. The new bridge has a longer span than the old bridge and fully spans Valley Creek, so it better accommodates fish passage and debris transport. It was designed to pass the 100-year flood flow.

The old metal truss Robinson Bar Bridge across the Salmon River on Rd. #70454 was replaced with a temporary Acrow Panel bridge. The bridge easily passes the 100-year flood flow and spans the entire river channel.

2010 – Planning was completed for the replacement of Iron and Goat Creek culverts on Highway 21 in cooperation with FHWA and ITD.

RECREATION RESOURCES Objectives (Forest Plan, pages III-62 to III-64)

Objective REOB12: *Annually update recreation databases for developed sites, dispersed areas, and trails.*

Accomplishment:
2009 - The INFRA developed site and buildings databases were updated with the results of the 2004 deferred maintenance surveys, which includes repair and replacement needs for each improvement for each site and building. No additional updates were completed in 2009. In preparation for the Recreation Facility Analysis (RFA) exercise, all developed recreation site databases were updated in 2005.

In accordance with Trails Deferred Maintenance Protocols, data entry for national core data relative to trails was completed September 30, 2006. The trails data base was updated for the 20% of trail mileage reviewed in 2009. National Core data includes data elements such as completed condition survey dates, trail jurisdiction, trail status, and length.

2010 – The recreation database was updated for the 20% of developed sites reviewed in 2010. Trail reviews are now assigned on a random basis (sample survey method). The Forest completed its assigned target for miles of trail to be reviewed. Data from the reviews was entered into the trails database.

SCENIC ENVIRONMENT Objectives (Forest Plan, page III-68)

This section contains no annual accomplishment requirements.

HERITAGE PROGRAM Objectives (Forest Plan, page III-70)

This section contains no annual accomplishment requirements.

TRIBAL RIGHTS AND INTERESTS Objectives (Forest Plan, page III-72)
Objective TROB01: *Meet annually with designated tribal representatives to coordinate tribal uses of National Forest System lands as provided for through existing tribal rights with the U.S. Government*

Accomplishment: There are four federally recognized Native American tribes who have expressed interest in management activities on the Sawtooth National Forest. They are:

- Nez Perce Tribe
- Shoshone-Bannock Tribes
- Shoshone-Paiute Tribes
- Northwest Band of the Shoshone Nation

2009 - In 2009, the Forest Supervisor sent letters to the Shoshone-Bannock Tribes and the Shoshone-Paiute Tribes inviting them to an in person government to government meeting to introduce new staff and discuss future projects. Neither Tribe replied to the invitation.

2010 - In 2010, the Forest was in transition between Forest Supervisors, so limited contact was established with affected tribes. The Forest Archaeologist, South Zone Archaeologist and Wilderness Coordinator attended a conference provided by the Shoshone-Bannock Tribes concerning treaty rights established through the Fort Bridger Treaty of 1868. Affected Tribes were notified of projects on the Forest through letters addressed to each Tribal Chairperson.

WILDERNESS, RECOMMENDED WILDERNESS and INVENTORIED ROADLESS AREA Objectives (Forest Plan, page III-74)

This section contains no annual accomplishment requirements.

WILD and SCENIC RIVERS Objectives (Forest Plan, page III-76)

This section contains no annual accomplishment requirements.

RESEARCH NATURAL AREAS Objectives (Forest Plan, page III-77)

This section contains no annual accomplishment requirements.

SOCIAL and ECONOMIC Objectives (Forest Plan, page III-78)

This section contains no annual accomplishment requirements.

SAWTOOTH NATIONAL RECREATION AREA Objectives (Forest Plan, page III-79)

This section contains no annual accomplishment requirements.

2. Documentation of costs associated with carrying out the planned management prescriptions as compared with the costs estimated in the Forest Plan.

Summary of findings: As described in Chapter IV of the Forest Plan, the final determining factor in carrying out the intent of the Forest Plan is the adequacy of funding. Allocation of dollars from Congress during the first planning period (1987-2003) was consistently lower than Forest Plan projections for most program areas. Because of this, rate of implementation of the 1987 Forest Plan was considerably lower than projected.

To predict a more realistic rate of implementation, the budget level used to develop the revised Forest Plan for all programs except timber management and hazardous fuels was based on average allocations from 2001 to 2003. Timber management and hazardous fuels reduction were based on a 10% increase over average service level constraints from the Forest Service Budget Formulation and Execution System. Actual allocations by fund code and program emphasis will vary on an annual basis based on Forest priorities for a given year, as well as the will of Congress. Table 2 shows the predicted Forest Plan budget level, inflated to reflect 2010 values, by program area based on average allocations and the actual allocation for fiscal year 2009 inflated to reflect 2010 values and the actual allocation for 2010, not including carry over dollars. Carry over dollars are unobligated funds remaining at the end of the fiscal year that may be carried over to the next fiscal year. These funds tend to be highly variable and therefore are not included.

Table 2. Predicted versus Actual Forest Budget Levels

Fund Code	DESCRIPTION	Predicted Forest Plan Budget Level	FY 2009 Actual Allocation	Percent Change 2009	FY 2010 Actual Allocation	Percent Change 2010
BDBD	BRUSH DISPOSAL	$ 50,650	$ 10,164	-80%	$ 10,000	-80%
CMFC/ CMII/CP09	FACILITY CONSTRUCTION AND MAINTENANCE	$1,596,179	$ 690,036	-56%	$ 634,803	-60%
CMRD	ROAD CONSTRUCTION AND MAINTENANCE	$1,470,052	$1,023,529	-30%	$1,495,434	+2%
CMTL	TRAIL CONSTRUCTION AND MAINTENANCE	$ 627,954	$ 542,641	-14%	$1,654,637	+263%
CWKV CWK2*	REFORESTATION	$ 245,747	$ 1,630	-99.99%	$ 400	-99.99%
LALW	LAND ACQUISITION MGMT.	$ 284,517	$ 21,545	-92%	$ 0	-100%
NFIM	INVENTORY AND MONITORING	$ 632,047	$ 533,328	-18%	$ 675,984	+7%
NFLM	LAND OWNERSHIP MGMT.	$ 331,586	$ 217,574	-34%	$ 218,845	-34%
NFMG	MINERALS & GEOLOGY MGMT.	$ 360,058	$ 329,963	-9%	$ 319,476	-12%
NFPN	LAND MGMT PLANNING	$ 709,239	$ 80,841	-89%	$ 54,557	-93%
NFRG	GRAZING MGMT.	$ 830,989	$ 801,489	-4%	$ 627,239	-25%
NFRW	RECREATION/HERITAGE RESOURCES/WILDERNESS MGMT.	$2,784,149	$1,710,072	-39%	$1,571,305	
NFTM	TIMBER MANAGEMENT	$ 715,792	$ 305,747	-57%	$ 374,612	-48%
NFVW	VEGETATION MANAGEMENT (FOREST AND RANGE)/WATERSHED IMPROVEMENTS/SOIL/WATER/ AIR MGMT.	$1,123,874	$ 788,054	-30%	$ 837,286	-25%
NFWF	WILDLIFE/FISH/THREATENED & ENDANGERED SPECIES HABITAT MGMT.	$ 926,208	$ 519,578	-44%	$ 610,721	-34%
RBRB	RANGE BETTERMENT	$ 85,696	$ 63,287	-26%	$ 66,311	-23%
SSSS	SALVAGE SALE	$ 282,400	$ 45,180	-84%	$ 65,000	-77%
WFHF**	HAZARDOUS FUELS	$ 784,528	$1,686,900	+215%	$1,012,161	+130%
WFPR	FIRE PREPAREDNESS	$4,153,080	$3,559,010	-14%	$3,489,667	-16%

*CWK2 - The FY 2006 appropriations act included an amendment to the K-V Act which expanded the allowable uses for K-V funds to include watershed restoration, wildlife habitat improvement, control of insects, disease and noxious weeds, community protection activities, and maintenance of forest roads within the Region in which the timber sale occurred.

**2009 WFHF allocation included special project funding for completion of the Liberal-Willow fuels reduction project on the Fairfield Ranger District

**2010 CMTL allocation included special project funding for trail construction and maintenance on the Sawtooth NRA

3. Population trends of the management indicator species will be monitored and relationships to habitat changes determined.

Table 3 shows the Management Indicator Species (MIS) selected by the Sawtooth National Forest in the 2003 Forest Plan. The primary reason MIS are selected is because their populations are believed to indicate the effects of management activities.

Table 3. Management Indicator Species for the Sawtooth National Forest, 2003 Forest Plan

Type	Common Name	Habitat	Management Concerns
Bird Species	Pileated Woodpecker	PVGs 2-9	Sufficient large trees, snags, and down logs
	Sage Grouse	Sagebrush/grassland	Habitat reduction and alteration
Fish Species	Bull Trout	Perennial streams	Sediment in spawning and rearing areas, water temperature, habitat connectivity

Following is a summary of the monitoring completed for each MIS on the Forest in FY 2009:

Bull Trout Monitoring:

An approach to monitoring bull trout as a management indicator species was developed with the Boise National Forest, Regional Office, and Rocky Mountain Research Station in 2004. A detailed description of this approach can be found in prior year Forest monitoring reports.

2009 Monitoring Results

Monitoring for bull trout on the Sawtooth National Forest occurred in 13 patches in 2009. In the S.F. Boise subbasins, seven patches were surveyed using formal protocols. Of these patches, bull trout reproduction was observed in Boardman, Skeleton, and Emma Creeks. In Skeleton and Boardman creeks, bull trout had been found each year sampled since 1994. Bull trout had also been observed in Emma Creek during surveys in 1993, 1994, and 2001, so their detection in 2009 was anticipated. However, surveys confirmed juvenile bull trout occupied more headwater areas than previously documented.

One subadult bull trout was sampled in Beaver (221 mm) and one in Paradise (197 mm) Creeks. Both fish were found within the first few survey sites lower in each patch. No juvenile bull trout (individuals <150 mm) were found suggesting that these patches do not support reproducing populations. Subadult fluvial and adfluvial bull trout (typically 175-300 mm in length) have been found in other streams (Little Smoky, Shake, and Carrie Creeks, Big Water Gulch, etc.) in the past. These fish are known to "wander" into habitat which may not be suitable for spawning or early rearing (as opposed to migration to or from spawning and/or early rearing habitat) and may exist for short or long periods in streams reaches that otherwise would be unoccupied (Personal communication, Bruce Rieman, Fisheries Research Biologist, RMRS).

Bull trout were not detected in Basalt or Five Point Creeks. Probabilities of detection for one site in Five Points Creek was 0.49 suggesting there is a moderate chance that the patch does not support a reproducing bull trout population. However, most accessible habitat in Five

Points Creek had been sampled previously in 1999, 2000, 2001, and 2007 with no bull trout found. Probabilities of detection for the three sites in Basalt Creek was 0.87 suggesting there is a higher level of certainty that a reproducing population is not present. No bull trout were detected despite extensive electrofishing surveys in 1993, 1999, or 2000 within this patch.

During 2009 five patches in the Salmon subbasin and one patch in the S.F. Payette subbasin were electrofished using formal protocols. Of the patches sampled, three patches (Trail, Big Boulder and Warm Spring Creeks) were occupied by juvenile bull trout (Figure 1). Bull trout had been detected previously in lower Trail Creek in 2004, Big Boulder in 2006, and Warm Spring in 2008. Bull trout were found in lower Jim Creek (0.6 miles above the Big Boulder confluence) for the first time which is just downstream of barrier falls. Bull trout were also found again up to barrier falls (1.9 miles above the Jim Creek confluence) in the main channel of Big Boulder Creek. Above these falls only stocked rainbow, westslope cutthroat or hybrids were found at the five surveyed transects. Sites higher in Pigtail, Warm Spring, and Garland Creeks were surveyed in 2009 than previously. A small waterfall in Pigtail Creek was found in one of two mainstem tributaries and no fish were found at the three sites above these falls. Westslope cutthroat had been found above these falls in 1999. The area was severely burned in the 2005 Valley Road Fire, so it is possible this cutthroat population was lost during the fire. Warm Spring Creek was sampled 4.3 miles above the meadow to natural barriers for the first time. Bull trout were found 1.8 miles above the meadow and may occur higher in the drainage. However, presence could not be confirmed due to poor electrofishing efficiency from the wide channel and deep pools. Westslope cutthroat have been found to the headwaters some of which are likely emigrating from the Born Lakes.

Electrofishing surveys failed to detect bull trout in the Pole (11 sites), Beaver (12 sites), and Iron (8 sites) patches. Probabilities of detection for each patch were 0.99 suggesting there is a high probability that juvenile bull trout are not present. Bull trout were not found by Idaho Fish and Game in Pole (11 sites) or Iron (5 sites) Creeks in 2004, so it is not surprising our 2009 surveys did not find them. Both streams have water diversions and elevated water temperatures (above 23 °C) lower in the patch, culvert barriers, and are dominated by brook trout. These factors likely limit access to migratory bull trout to allow recolonization and successful reproduction due to competition from brook trout. Bull trout had also not been found in 2000 Forest Service surveys of Beaver Creek. Beaver Creek is dominated by brook trout except in the very headwaters where westslope cutthroat are present.

More details about monitoring results can be found in Attachment 5 *2009 Sawtooth Aquatic Management Indicator Species Monitoring Report*.

2010 Monitoring Results

A variety of factors influences the distribution of bull trout populations across the Sawtooth National Forest. As has been reported in the literature, results from our MIS sampling indicate that patch size, stream temperature, patch connectivity, habitat condition, and the occurrence of brook trout can all influence the presence or absence of reproducing bull trout populations. Information collected over the past six years has better defined bull trout distributions within patches and across each subbasin. At the subbasin scale it appears bull trout local populations have remained stable since 2003 with the exception of the loss of a hybridized population in Crooked Creek. We have also found more

occupied patches than previously thought. However, this doesn't imply bull trout have expanded their range. Only that we have confirmed their presence in streams that likely supported them all along. Still, the data indicates that bull trout presence is more robust than previously thought.

In 2010, bull trout populations continue to occupy historically occupied patches, including Boardman, Deadwood, Big Peak, N.F. Big Smoky, Bowery, Big Boulder, and Queens River. Bull trout continue to be absent in Basalt, Grindstone, Worswick, Narrow, Skillern, Upper M.F. Boise River, Pole, and Iron Creeks with detection probabilities ranging from of 0.47 to 0.99.

After many years of sampling the Sawtooth National Forest now has a comprehensive baseline of bull trout presence/absence on the Forest. In future years we will evaluate changes in population abundance at repeat sample sites as well as distribution changes within each patch.

A more detailed discussion of the Forest's aquatic management indicator species monitoring can be found in Attachment 11, *2010 Sawtooth Aquatic Management Indicator Species Monitoring Report,* of this monitoring report.

Sage-grouse and Pileated Woodpecker Monitoring

The primary goal of the Sawtooth National Forest Management Indicator Species/Landbird Monitoring Program is to estimate the overall population trends on the Forest for specific avian management indicator species, namely the pileated woodpecker and sage-grouse. The secondary goal of this monitoring strategy is to conduct an assessment of habitat relationships as they relate to population trends for those two species.

2009/2010 Sage Grouse Monitoring Results:
Lek route surveys were conducted on the Minidoka District in 2009 and 2010. Table 4 displays the results of the completed lek surveys.

Table 4. Total number of males counted by year on Standardized Lek routes monitored on the Cassia and Raft River Divisions on the Minidoka RD in 2009/2010

LEK ROUTE	2009	2010
Cassia Division		
Cottonwood Ridge	32	37
Dry Creek	15	29
Raft River Division		
Lynn Spring	0	**
NE Lynn Reservoir	17	17
Broad Hollow Fields	**	2

**Indicates years where routes were not surveyed

2009 Pileated Woodpecker Monitoring Results:
34 transects (340 points) were surveyed in 2009. 12 pileated woodpeckers were detected at 10 points. An additional pileated woodpecker was detected on the President's Trail survey route on the Fairfield District but was not counted as part of the survey as it was detected between points.

2010 Pileated Woodpecker Monitoring Results

34 transects (340 points) were surveyed in 2010. 13 pileated woodpeckers were detected on Fairfield District; 6 were detected on the Sawtooth NRA and 2 were detected on the Ketchum District.

4. Accomplishment of ACS priority subwatershed restoration objectives.

Summary of findings: The Watershed Aquatic Recovery Strategy (WARS) is a process that identified restoration priorities (high, moderate, and low) and restoration type (passive, active, and conservation) among the 650 subwatersheds across the Southwest Idaho Ecogroup. This strategy provides the "blue print" for recovery and protection of aquatic (both physical and biological) resources across the Ecogroup. Table 5 displays a summary of the aquatic restoration that occurred in ACS priority subwatersheds on the Sawtooth National Forest in 2009 and in 2010.

Table 5 – Sawtooth National Forest 2009/2010 Aquatic Restoration Projects by WARS priority

	Year	Within ACS Priority Watersheds	Outside ACS Priority Watersheds			TOTAL From Columns 2, 3, 4 &5
			WARS *High* Priority Watershed	WARS *Mod* Priority Watershed	WARS *Low* Priority Watershed	
Miles of Stream Improved	2009	12.3	5	8	4	29.3
	2010	10	8	4	5	17
Acres of Lake Improved	2009	1	5	--	--	6
	2010	6	9	0	0	9
Acres of Watershed Improved	2009	369.7	74.5	42	33.5	519.7
	2010	162.65	280.24	110.07	147.08	537.39

III - B. Monitoring Elements in Table IV-2 of the Forest Plan with Annual Reporting Requirements:

As described in Chapter IV of the Forest Plan, monitoring elements were designed around monitoring questions that need to be answered about Forest Plan implementation. These questions are key to determining if we are moving towards meeting the desired conditions identified in the Forest Plan. Following is a summary of the findings for those elements that we are required to monitor and evaluate on an annual or biennial basis:

- **Activity or Practice to Be Monitored: Safety of administrative facilities**

  Monitoring Question: Are administrative sites safe and accessible for visitors and employees including drinking water sources?

Summary of findings:

2009 - Condition surveys are required every 5 years at a minimum to assess the overall operational quality, function and maintenance required at the facility. In accordance with the schedule, conditions surveys were conducted on the following administrative sites in 2009:

- Fairfield Administrative Site

- Shake Creek Guard Station
- Gunnel Administrative Site
- Sawtooth Valley Work Station
- Valley Creek Guard Station

In addition, sanitary surveys were completed this year on approximately 20% of the total water systems.

Water systems are tested for bacteriological contamination on a monthly basis when they are open. Any systems that show bad results are re-tested according to FS direction and are closed if repeat samples indicate contamination. Systems are re-opened when deficiencies are corrected and repeat sampling indicates the water is safe. The drinking water systems for all Forest administrative sites with active water systems were opened in 2009. Monthly samples collected from these water systems during the months the systems were open for use determined that each of these systems was substantially compliant with the Safe Drinking Water Act standards.

2010 - Sanitary surveys are required every 5 years at a minimum to assess the overall operational quality, function and maintenance of water systems. Sanitary surveys were conducted in accordance with the Forest schedule. In addition to the sanitary surveys, condition surveys were completed this year on approximately 20% of the total buildings.

The drinking water systems for all Forest administrative sites were opened in 2010. Monthly samples collected from these water systems during the months the systems were open for use determined that each of these systems was compliant with the Safe Drinking Water Act standards.

Despite the replacement of water systems at Big Smoky and Shake Creek in 2005, occasional water tests were bad. The problem was traced back to having an improper seal on the water storage tank manways. In 2010 those manways were replaced with manways capable of sealing properly. Deferred maintenance was completed on 3 buildings at Shake Creek. Mold mitigation projects were completed at Stanley Housing Units 2 and 7. Mold testing was completed at Sawtooth NRA Headquarters. The Redfish Lift Station that serves Redfish Lake Lodge and several Forest Service facilities was contracted for replacement. Substantial work was completed on the Redfish Cabin and Sawtooth Valley Ranger's dwelling to eliminate deferred maintenance on those buildings and prepare them for the Recreation Rental Program.

- **Activity or Practice to Be Monitored: Safety of developed recreation sites**

  Monitoring Question: Are developed recreation sites free of high-risk conditions? Do water systems meet Federal, State, and local requirements?

Summary of findings:
2009 - Generally, all Forest developed recreation sites are inspected in the spring or early summer in conjunction with opening for the summer season. Any identified hazards are

removed or mitigated at this time. Water systems are managed and tested in accordance with the Safe Drinking Water Act and Forest Service regulations.

The drinking water systems for the majority of the recreational facilities were open for use in 2009. Monthly samples collected during the months the systems were open for use determined that each of these systems was substantially compliant with the Safe Drinking Water Act standards. In 2009, most of the developed recreation water systems met all standards established under this act and agency regulations.

2010 - The drinking water systems for the majority of the recreational facilities were open for use in 2010. Monthly samples collected during the months the systems were open for use determined that each of these systems was compliant with the Safe Drinking Water Act standards. In 2010, most of the developed recreation water systems met all standards established under this act and agency regulations.

- **Activity or Practice to Be Monitored: Protection of historic properties**

  Monitoring Question: Are historic properties being affected by project activities?

Summary of findings:
2009 - In 2009, 55 undertakings conducted on National Forest System lands were evaluated and consulted on with Idaho and Utah SHPO as outlined under NHPA, Section 106 requirements. Another five projects were determined undertakings but had no potential to cause effect to historic properties.

Livestock grazing permit renewal analysis was a driving element in the 2009 work load. Most of the allotments did not have impacts to historic properties. However, the Big Creek and Tunnel Hill allotments were determined to have had an adverse effect to historic properties and a proposed archaeological district. During 2009, consultation was conducted with interested parties, but an MOA to mitigate the adverse effects was not signed until FY2010. A brief review of the Rock Creek Allotment on the Minidoka Ranger District showed that monitoring commitments made in the previous NEPA decision associated with archaeological sites were not being followed through. In response to the finding, the District re-established monitoring points and the monitoring is scheduled to be completed in 2010.

Three ARPA permits were issued in 2009 associated with road development projects on the Sawtooth National Recreation Area. The Sawtooth National Forest continued in 2009 to improve the base heritage data in GIS, INFRA and archival documents. NHPA, Section 110 activity was also completed in 2009 on an unanticipated discovery of bison remains on the Fairfield District, and the completion of a historical assessment of Forest Service facilities conducted by the Intermountain Regional Office.

2010 - In 2010, the Forest finalized the establishment of a Memorandum of Agreements (MOA) with the Idaho SHPO concerning mitigation for ongoing adverse effects to historic properties in the Tunnel Hill and Big Creek Allotments. These allotments are located on the Cassia Division

of the Minidoka Ranger District, which contains a high concentration of prehistoric sites. The MOA focused on establishing a four year data collection research program to collect scientific data that was being lost through livestock grazing.

The Forest continued to work on developing historic building evaluations and rehabilitation plans in 2010. Evaluation documentation was completed for the Redfish Lake Lodge Historic District, Redfish Lake Visitor Center, Redfish Lake Guard Station, and the Sawtooth Valley Work Center. Rehabilitation plans were also developed for the Redfish Lake Guard Station and Sawtooth Valley Work Center preceding the modification of these building for addition to the cabin rental program.

The Forest also worked with the Bureau of Land Management in the review of the Gateway West Transmission Line, which one of the alternatives would cross the historic Hudspeth's Cutoff trail and the proposed Tunnel Hill Archaeological District.

- **Activity or Practice to Be Monitored:** Watershed restoration and conservation activities

  Monitoring Question: Have restoration and conservation activities been focused in priority watersheds identified by the WARS process?

Summary of findings:
2009 - In FY09, 30 projects were completed (Table 6a) that protected, maintained, improved or restored water resources, soil resources, stream habitats, and lake habitats and associated desirable species. These projects improved 29.3 miles of stream, 519.7 acres of riparian and upland areas, 6 acres of lake, and 53 miles of roads/trails. Approximately $782,163 was spent on these projects, with the largest projects (Castle Rock Fire Restoration) costing $556,444 (71.1%). Projects focused in ACS and WARS high priority subwatersheds accomplished 17.3 miles (59%) of stream, 32.9 miles of road decommissioning (62%), 6 acres (100%) of lake, and 444.2 acres (85%) of riparian and upland improvements on the Forest. A total of $504,839 representing 65% of the total partnership and Forest Service funds spent on aquatic restoration in FY 09 was spent in high priority subwatersheds.

2010 - In FY10, 22 projects were completed (Table 6b) that protected, maintained, improved or restored water resources, soil resources, stream habitats, and lake habitats and associated desirable species. These projects improved 17 miles of stream, 537 acres of riparian and upland areas, 9 acres of lake, and decommissioned 116 miles of roads/trails. Approximately $625,836 was spent on these projects. Projects focused in ACS and WARS high priority subwatersheds accomplished 12 miles (71%) of stream, 57.35 miles of road decommissioning (49%), 9 acres (100%) of lake, and 350 acres (65%) of riparian and upland improvements on the forest.

Table 6a - FY 09 aquatic restoration accomplishments on the Sawtooth National Forest

Project Name	Subwatershed	FW or MA Objective addressed	Summary of accomplished work	WARS Priority	ACS priority subwatershed
Fairfield Ranger District					
Beaver Program	**Middle Little Smoky** **Upper Little Smoky** **Headwaters Little Smoky** **Middle Soldier**	TEOB03, TEOB07, SWOB16, Upper SFBR MA 0624, 0630, Soldier Willow Creek MA 1012	Through the Wood River RCD Interagency Beaver Committee relocate a minimum of ten beavers onto the Sawtooth National Forest for the purpose of improving wildlife habitat. 18 beavers were placed in Grindstone (5), Phillips (3), Rosetta (2), Liberal (2), and on private property in Elk Creek (6) Stream Miles Improved - 12	Active/Mod. Active/Mod. Active/Low Active/High	No No No Yes
South Barker Trails (WFW3)	**Willow Cr.** **Shake-S.F. Boise R.** **Kelley-S.F. Boise R.**	TEOB27, SWOB05, SWOB16, REOB01, REOB20, REOB21, Middle South Fork Boise River MA 0816	Heavy maintenance to trails within the South Barker Fire Perimeter. Shake, Willow, Van Gulch, Big Water, Little Water, Jumbo, Camp Gulch, Haypress, Edna and Narrow Creek Trails. Acres Improved – 24	Passive/Mod. Active/Mod. Active/Mod.	Yes No No
Non-System route decommissioning	**Headwaters Little Smoky**	TEOB03, TEOB07, TEOB27, SWOB05, SWOB16, SWOB18, FROB04, REOB01	Project decommissioned/obliterated user-created roads and trails that have not been designated as official travel routes. Acres Improved – 19 Miles of Road Decommissioned - 20	Active/Low	No
Iron Mountain Trail rehab	**Kelley-S.F. Boise R.**	TEOB27, SWOB05, SWOB16, REOB01, REOB20, REOB21, Middle South Fork Boise River MA 0816	Project rehabilitated portions of the Iron Mountain Trail to reduce aquatic and riparian impacts. The Iron Mountain Trail (050) is one of the most heavily-used motorized trails in Idaho. The trail was originally a rough road that provided access to the lookout and so was laid-out with little consideration of resource protection. As a result, about the lower half of the trail fords perennial streams at nine locations. Erosion of the trail and configuration of drainage structures, especially at and up-trail from the	Active/Mod.	No

Project Name	Subwatershed	FW or MA Objective addressed	Summary of accomplished work	WARS Priority	ACS priority subwatershed
			fords, contribute to high levels of fine sediment in the Kelley Creek drainage. The project should reduce sediment to streams in the Kelley Creek through rocking of eight ford approaches. The rock should reduce erosion, sedimentation, and turbidity at stream-trail interfaces by hardening the stream banks, filtering suspended sediment from overland flow from the trail, and dislodging some sediment attached to vehicle tires. Acres Improved – 6		
Hunter Creek trail rehab	**Lower S.F. Lime** Cr.	SWOB16, REOB01, REOB20, REOB21, Lime Creek MA 0911	Raise trail elevation to prevent flooding and erosion into creek Acres Improved – 1	Active/Low	No
Willow Creek Large Woody Debris	**Upper Willow Cr.**	TEOB27, SWOB16, Soldier Creek/Willow Creek MA 1012	Place logs in Willow Creek to improve fish and aquatic habitat. Continuation of 2008 project. Stream Miles Improved - 2	Active/Low	Yes
West Fork Big Smoky/Salmon River HW Trail	**W.F. Big Smoky** **Upper Salmon** **Smiley Cr.**	TEOB27, SWOB05, SWOB16, REOB01, REOB20, REOB21, Upper S.F. Boise River 0626	Project on SNRA/FFRD. Reroute lower end of W. Fk. Big Smoky Trail; reroute sections of trail on the Smiley Creek side; and replace 2.3 miles of the Salmon River Rd with trail near Chemeketan CG Acres Improved – 5	Passive/High Active/High Active/High	Yes No No
Buttercup Creek Road Rehabilitation and Stormproofing	**Upper Willow Cr.**	FROB04, FROB12, Soldier Creek/Willow Creek MA 1009, 1012	Completed heavy maintenance and water-control related construction in road and right of way to minimize current and future sedimentation and water-routing impacts to Buttercup Creek. Acres Improved – 9	Active/Low	Yes
Ketchum Ranger District					
Eagle Creek Road Rehabilitation and	**Eagle Cr-Big Wood R.**	FROB04, FROB12	Completed heavy maintenance and water-control related construction in road and right of way to minimize current and future sedimentation and water-routing impacts.	Active/High	No

Project Name	Subwatershed	FW or MA Objective addressed	Summary of accomplished work	WARS Priority	ACS priority subwatershed
Stormproofing			Acres Improved – 9		
Castle Rock Trails (WFW3)	**Greenhorn** **Warfield-West FK Warm Springs** **Adams-Big Wood** **Barr Gulch-Rooks**	SWOB05, SWOB16, REOB01, REOB20, REOB21, Big Wood River MA04 0438	7 miles trails reconstruction, 35 miles of hazard tree removal and 5 miles of erosion/sediment control and stream stabilization. Stream Miles Improved -5 Acres Improved – 45	Active/Mod Active/Low Active/Low Active/High	No Yes No No
Copper Creek Road rehab	**Upper Muldoon Cr.**	SWOB16, REOB01, REOB20, REOB21	Raise road elevation and place culverts to prevent flooding and erosion into creek Acres Improved – 1	Active/High	No
Castle Rock Hillslope Treatments (BAER)	**Warfield-West FK Warm Springs**	SWOB05, SWOB16	Agricultural straw mulch was placed to increase ground cover, reduce raindrop erosion and minimize the potential for small scale debris flows. Acres Improved – 240	Active/Low	Yes
Deer Creek Road rehab	**Deer Creek**	SWOB16, REOB01, REOB20, REOB21	Raise road elevation and place culverts to prevent flooding and erosion into creek OR reroute about 1000 feet of road to upland on north side of creek. Acres Improved – 10	Active/Low	No
Large Woody Debris	**Placer Cr-Warm Springs Cr.**	SWOB16, Big Wood River MA 0441	Added logs to Upper Warm Springs creek to create/improve fish and aquatic habitat Stream Miles Improved - 3	Active/High	No
Upper Warm Springs/Deer Creek undesignated route	**Deer Creek** **Placer Cr-Warm Springs Cr.**	SWOB16, SWOB18, FROB04, FROB12, Big Wood River MA	Decommission undesignated routes in former "G" cross-country travel areas Acres Improved – 3	Active/Low Active/High	No No

Project Name	Subwatershed	FW or MA Objective addressed	Summary of accomplished work	WARS Priority	ACS priority subwatershed
decommissioning		0464			
Minidoka Ranger District					
Blackpine Rehab (NFN3)	**Middle Meadow Cr.**	SWOB05, SWOB16	Drainage and road work in Sweetzer Canyon and other roads affected by Blackpine Fire Acres Improved – 1	Active/Low	No
YCT Habitat Improvement	**Outlet Clear Cr.** **Johnson Cr.**	SWOB16	Place woody debris in Sixmile and/or the Right Hand Fork of Johnson Creek by hand (2 miles) to improve aquatic habitat for YCT. Work in conjunction with IDFG to accomplish piscicide treatments for the improvement of a YCT population. Stream Miles Improved -3.5 Acres Improved – 2	Active/High Active/High	Yes Yes
LHF Johnson Ck Res.	**Johnson Cr.**	SWOB16, SWOB18, FROB04, FROB12	Restoration efforts to the Left Hand Fork of Johnson Creek are needed to correct several resource issues from past livestock and motorized trail use. As the trail along this drainage was closed in the Travel Plan effort, portions of it need to be obliterated. Level of restoration effort needs to be determined. Acres Improved – 5	Active/High	Yes
Non System Road/Trail Obliteration	**Winecup Cr-Goose Cr.**	SWOB16, SWOB18, FROB04, FROB12, Trapper Creek/Goose Creek MA 1313,1331	Obliteration of priority non system roads and trails on the Minidoka Ranger District Acres Improved – 89.7 Miles of Road Decommissioned – 29.6	Active/High	Yes
Conner Creek Road Trail Conversion	**Middle Cassia Cr.**	SWOB16, REOB01, REOB20, REOB21,	Relocate a section of trail to bypass a wet meadow and tributary crossing. Acres Improved – 1	Active/Low	No
Beaver Reintroduction	**Upper Cassia Cr.** **Upper Big**	SWOB16	Funds the relocation of Beaver to selected streams on the Minidoka District in partnership with the Mid Snake Beaver Committee. Two beavers were placed.	Active/High Passive/High	Yes Yes

Project Name	Subwatershed	FW or MA Objective addressed	Summary of accomplished work	WARS Priority	ACS priority subwatershed
	Cottonwood Cr.		Stream Miles Improved -2		
Sawtooth National Recreation Area					
Elk Creek Campsite Reconstruction/Restoration	**Elk Cr.**	TEOB07, TEOB10, TEOB27, SWOB16, REOB01, Upper Salmon River valley MA 0252	Relocated an extensive camping area adjacent to Elk Creek. Acres Improved – 10 Stream Miles Improved -.5	Active/High	Yes
Programmatic Conifer Encroachment Treatment	**Boulder Cr-Big Wood River** **Frenchman-Salmon River** **Beaver Cr.** **Lower Valley Cr.**	VEOB06	This project treated conifer encroachment in aspen, meadows and sagebrush on the Sawtooth NRA. Projects that occurred in meadows are designed to decrease evapotranspiration and increase base flows to streams. This project treated at least 200 acres of conifer encroachment in aspen, meadows and 400sagebrush on the Sawtooth NRA. Acres Improved – 20	Active/Mod. Active/High Active/High Active/High	No No No No
Stanley Lake Outlet Beach Rehabilitation	**Stanley Lake Cr.**	TEOB07, TEOB10, TEOB27, SWOB16, Upper Salmon River valley MA 0247, 0252	Funds were used to plan and implement restoration treatments on a segment of the Stanley Lake shoreline adjacent to the outlet, where former dispersed camping altered lakeshore habitats. Stream Miles Improved -.5 Acres Improved – 8 Acres of Lake Improved - 3	Active/High	No
Travel Plan Maintenance	**Elk Cr.**	TEOB07, TEOB27, SWOB16, SWOB18, FROB04, REOB01, SNOB02, Upper Salmon River MA 0249, 0252, 0275	Implemented vehicle control and site rehabilitation measures where expanding recreation use is not appropriate or desired. Acres Improved – 10 Miles of Road Decommissioned - .3	Active/High	Yes
Trailhead Fire	**Stanley Lake**	TEOB03, TEOB07,	Installation and repair of waterbars on nine miles of trail	Active/High	No

Project Name	Subwatershed	FW or MA Objective addressed	Summary of accomplished work	WARS Priority	ACS priority subwatershed
Water Bars (WFW3)	**Cr.**	SWOB16, SWOB18, REOB01, REOB20, REOB21, SNOB02, Upper Salmon River MA 0253	Acres Improved – 5		
Beaver Creek Unauthorized Road Obliteration	**Beaver Cr.**	TEOB07, TEOB03, SWOB05, Upper Salmon River MA 0249, 0252, 0275	Funds would continue the obliteration of unauthorized roads (and associated dispersed recreation sites) in the Beaver Creek area as authorized in the Beaver Creek Fuels Reduction project. Includes coordination with landowners in nearby community. Stream Miles Improved -.5 Acres Improved – 15 Miles of Road Decommissioned – 1.5	Active/High	No
Wilderness Campsite and Lakeshore Restoration	**Lower Valley Cr.**	TEOB07, TEOB10, TEOB27, SWOB16	Collection of Grouse Wortleberry seed for seedling production. Seedlings will be used to restore campsites and lakeshore habitat in the Sawtooth Wilderness. Acres of Lakes Improved – 2	Active/High	No
Iron Creek Trail Relocation	**Lower Valley Cr.**	TEOB03, TEOB07, SWOB16, SWOB18, REOB01, REOB20, REOB21, SNOB02	Project will relocate 0.2 mile of trail out of wetlands onto higher ground. The third generation of native log puncheons over the seasonally flooded section of trail has rotted out. Foot and horse traffic through the area continually disturbs the soils and vegetation in this wet fragile area near Iron Creek. Acres Improved – 1	Active/High	No
Aquatic Invasive Education Program and Management Strategy	**Lower Redfish Lake Cr.**	TEOB03, SWOB16	Initiated boater surveys. Developed early detection/rapid response plan for most probable aquatic invasives. Acres of Lake Improved – 1	Passive/High	Yes

Table 6b - FY 10 aquatic restoration accomplishments on the Sawtooth National Forest

Project Name	Subwatershed (s) in which restoration occurred	FW or MA Objective addressed	Summary of accomplished work	WARS Restoration Strategy and Priority	ACS priority subwatershed
Fairfield Ranger District					
Non System Road/Trail Obliteration	**Shake Cr.- S.F. Boise R.**	TEOB03, TEOB07, TEOB27, SWOB05, SWOB16, SWOB18, FROB04, REOB01	Obliteration of priority non system roads and trails on the Fairfield Ranger District. Roads were ripped where compaction and surface condition warranted. Native material was used to block vehicles at all access points and throughout lengths of routes. Route closures were signed at all access points and obliterated surfaces were seeded to speed vegetative recovery. Benefits will be less bank erosion and sediment input from stream crossings, increased riparian vegetation and habitat, and reduced road and trail surface erosion/sediment delivery. Acres Improved - 94.5 Miles of Routes Decommissioned - 31.2	Active/Mod	No
	Boardman Cr.			Passive/High	Yes
	Kelley Cr.- S.F. Boise R.			Active/Mod	No
	Lower Little Smoky			Active/Mod	No
	Slickear Cr.– Lime Cr.			Active/Mod	No
	Salt Cr–Big Smoky			Active/Mod	No
	NF Lime			Active/Low	No
	Middle Soldier			Active/High	Yes
	Skeleton			Passive/Mod	Yes
	Lower Big Smoky Cr.			Active/Mod	No
	Skunk-S.F. Boise R.			Active/Mod	No
	Upper Willow Cr.			Active/Low	Yes

Project Name	Subwatershed (s) in which restoration occurred	FW or MA Objective addressed	Summary of accomplished work	WARS Restoration Strategy and Priority	ACS priority subwatershed
Beaver Program	**Upper Little Smoky** **Threemile Cr.**	TEOB03, TEOB07, SWOB16, Little Smoky Creek MA 0721	Through the Wood River RCD Interagency Beaver Committee the Sawtooth National Forest relocated beavers for the purpose of improving wildlife habitat. Five beavers were placed in Red Rock Creek and nine were placed in Threemile Creek (Camas Creek subbasin). Stream Miles Improved – 2 Acres Improved – 2	Active/Low Passive/Low	No No
South Barker Trails (NFN3)	**Upper Willow Cr.** **Shake-S.F. Boise R.** **Kelley-S.F. Boise R.**	TEOB27, SWOB05, SWOB16, REOB01, REOB20, REOB21, Middle South Fork Boise River MA 0816	Heavy maintenance was completed on trails within the South Barker Fire Perimeter. Trails occurred in Shake, Willow, Van Gulch, Big Water, Little Water, Jumbo, Camp Gulch, Haypress, Edna and Narrow Creeks. Acres Improved – 25	Active/Low Active/Mod Active/Mod	Yes No No
Ketchum-Featherville Road	**Shake-S.F. Boise R.** **Kelley-S.F. Boise R.** **Beaver Cr.-S.F. Boise R.**	SWOB16, FROB04, FROB12, Middle South Fork Boise River MA 0813	The project reconstructed the road grade & placed gravel on nine miles of the Ketchum-Featherville Road. This road is directly adjacent to the South Fork Boise River for much of its length. In addition to the sediment produced through dusting, the necessity of continuous maintenance has led to the development of a near continuous berm of oversized and fine material along the road shoulder, which concentrates surface runoff until the accumulated water creates a washout section, contributing more sediment to the river and erosion of the riverbank. This project will reduce sedimentation by removing the berm and incorporating the material within the roadway, establishing a crowned roadway prism to provide sheet drainage, and using imported binder and dust abatement to stabilize the native material within the road template. Acres improved – 16	Active/Mod Active/Mod Passive/High	No No No

Project Name	Subwatershed (s) in which restoration occurred	FW or MA Objective addressed	Summary of accomplished work	WARS Restoration Strategy and Priority	ACS priority subwatershed
Boardman Creek trib culvert installation	**Boardman Cr.**	TEOB03, TEOB07, SWOB05, SWOB16, REOB01, REOB20, REOB21, Middle South Fork Boise River MA 0813	Project reduced sedimentation from the 010 road ford in an unnamed tributary of Boardman Creek. The Forest's construction and maintenance crew placed the 58 x 36" pipe arch CMP in September 2010 about 8" below the ford grade and at approximately a 0% slope. The crew use local rock and soil to form the approaches to the culvert and to armor the upstream side of the fill. The culvert should reduce or eliminate sediment and vehicle-carried contamination of the approximate 1-mile course of the unnamed tributary below the road crossing. As the tributary is fishless (because of high gradient) for most of its length and the culvert was set to upstream passage standards, its existence will have no deleterious effects on aquatic life. The tributary joins Boardman Creek within spawning and early juvenile rearing habitat for bull trout, and Boardman Creek is one of the most productive streams on the District for this threatened species. The reduction in sediment and vehicle-borne contaminants from the unnamed tributary should improved aquatic conditions in Boardman Creek for a substantial distance downstream. Miles of stream improved – 2 Acres improved - 1	Passive/High	Yes
Willow Creek Large Woody Debris	**Upper Willow Cr.**	SWOB16, Soldier Creek/Willow Creek MA 1012	Pool habitat was created by the placement of Douglas-fir, aspen, and alder logs into Willow Creek. The logs should create both impoundment and scour pools and should serve to catch additional woody debris. In addition to pools, the logs should create overhead cover for fish. We placed a total of about 30 substantial logs at a total of 12 sites along upper Willow Creek. Counting an influence zone of approximately one-quarter mile upstream and downstream of each site, about 2.0 miles of stream were affected by the project. Miles of stream improved - 2 Acres improved – 2	Active/Low	Yes

Project Name	Subwatershed (s) in which restoration occurred	FW or MA Objective addressed	Summary of accomplished work	WARS Restoration Strategy and Priority	ACS priority subwatershed
Ketchum Ranger District					
Non System Road/Trail Obliteration	**Baker Cr.**	SWOB05, SWOB16, SWOB18, FROB04, REOB01	Obliteration of priority non system roads and trails on the Ketchum Ranger District. Roads were ripped where compaction and surface condition warranted. Native material was used to block vehicles at all access points and throughout lengths of routes. Route closures were signed at all access points and obliterated surfaces were seeded to speed vegetative recovery. Benefits will be less bank erosion and sediment input from stream crossings, increased riparian vegetation and habitat, and reduced road and trail surface erosion/sediment delivery. Acres Improved - 89.5 Miles of Routes Decommissioned - 29.55	Active/Low	No
	Castle Rock-Warm Spring Cr.			Active/High	No
	Baugh Cr.			Active/Low	No
	Corral Cr.			Passive/Low	No
	Cove Cr.			Active/High	No
	Elkhorn Gulch-Big Wood River			Active/Low	No
	Peters Gulch-East Fork Big Wood R.			Active/High	No
	Lake Cr.-Big Wood R.			Active/High	No
	Trail Cr.			Active/Low	Yes
	Rock Cr. /Warm Springs Cr.			Passive/High	No
	Red Warrior /Warm Springs Cr.			Active/Low	Yes

Project Name	Subwatershed (s) in which restoration occurred	FW or MA Objective addressed	Summary of accomplished work	WARS Restoration Strategy and Priority	ACS priority subwatershed
Beaver Program	**Cove Creek**	SWOB16, MA 0441	Through the Wood River RCD Interagency Beaver Committee beavers were relocated on the Sawtooth National Forest for the purpose of improving wildlife habitat. One beaver was placed in Finely Gulch (Cove Creek) Miles of stream improved - 1 Acres improved - 1	Active/High	No
Castle Rock Trails (WFW3)	**Greenhorn** **Red Warrior /Warm Springs Cr.** **Elkhorn Gulch/Big Wood River** **Rock Cr./Warm Springs Cr.**	SWOB05, SWOB16, REOB01, REOB20, REOB21, Big Wood River MA04 0438	Eight miles of trail were decommissioned; a contract was administered in Red Warrior, Warfield, Eve's Gulch for the reconstruction of7 miles of trail; trail drainage was also improved on 35 miles of trails within the Castle Rock Fire Perimeter. Miles of stream improved - 2 Acres improved - 45	Active/Mod Active/Low Active/Low Active/High	No Yes No No
Minidoka Ranger District					
Minidoka District Stream Ford Improvements	**Upper Big Cottonwood Cr.**	SWOB05,SWOB12, SWOB16, SWOB18, FROB04, FROB12, MA1208	Improved one previously unimproved stream ford on Big Cottonwood Creek with installation of a cable concrete mat. Acres improved – 1.5	Passive/High	Yes
YCT Habitat Improvement	**Outlet Clear Cr.**	SWOB16	Juniper boles and branches were placed in Sixmile Creek to improve cover around pool structures for newly transplanted Yellowstone cutthroat trout. The woody debris will provide overhead cover for aquatic organisms. They may also help to constrict the formation of a wider channel, thus increasing stream velocity, thus resulting in sediment flushing and wider scour pools for the cutthroat. Miles of stream improved – 1	Active/Mod	No

Project Name	Subwatershed (s) in which restoration occurred	FW or MA Objective addressed	Summary of accomplished work	WARS Restoration Strategy and Priority	ACS priority subwatershed
LHF Johnson Ck Res.	**Johnson Cr.**	SWOB05, SWOB12, SWOB16, SWOB18, MA 1815	Project corrected several resource issues from past livestock and motorized trail use. The trail along the LHF of Johnson Ck. was closed to motorized use in the District Travel Mgt Plan. The trail was signed at both ends and trees were dropped in various places to impede travel in 2009. Efforts in 2010 reinforced the log barriers. Water bars were established along 2 miles of the trail adjacent to Johnson Ck to reduce sediment into the creek. Miles of stream improved - 2 Acres improved - 1	Active/High	Yes
Upper Trout Creek Exclosure	**Trout Cr.**	SWOB16, SWOB18, MA 1313 and 1314	This project continues the 2007 effort to stabilize the upper end of Trout Creek by rebuilding the riparian exclosure. Miles of stream improved - 2 Acres improved – 3	Active/Mod	Yes
FS Flats Dispersed Camping	**Headwaters of Rock Cr.**	SWOB05, SWOB12, SWOB16, SWOB18, REOB01, Rock Creek MA 1110, 1127, 1129	The project is located in the Cassia Division of the Minidoka Ranger District within the Headwaters Goose Creek. The FS Flats area is an extremely popular dispersed camping area and has an extensive network of user created off road vehicles routes. Forest Road 70538 passes through the center of the meadow, from which two system spur roads (72135 and 72136) provide access to several of the numerous dispersed campsites that exist along both sides of the meadow edge. The Minidoka RD changed camping use within FS Flats to designated dispersed sites and rerouted the main road (70538) and access to individual camp sites. This project decommissioned the former system roads (0.6 miles), decommissioned non system roads and trails (1.0 mile), placed barriers to off road vehicles access to the meadow (unknown number of sites), and rehabilitated the degraded soil and vegetation throughout the meadow (4.0 acres). Acres improved – 10	Active/Passive /Low	No

Project Name	Subwatershed (s) in which restoration occurred	FW or MA Objective addressed	Summary of accomplished work	WARS Restoration Strategy and Priority	ACS priority subwatershed
Non System Road/Trail Obliteration	**Headwaters of Rock Cr.** **Middle Dry Cr.** **Trout Cr.** **Upper Big Cottonwood Cr.** **Upper Dry Cr.** **Upper Rock Cr.** **Upper Trapper Cr.** **Winecup Cr.-Goose Cr.**	SWOB05, SWOB16, SWOB18, FROB04, REOB01, Trapper Creek/Goose Creek MA 1313,1331	Obliteration of priority non system roads and trails on the Minidoka Ranger District. Roads were ripped where road compaction and surface condition warranted. Native material was used to block vehicles at all access points and throughout lengths of routes. Route closures were signed at all access points and obliterated surfaces were seeded to speed vegetative recovery. Benefits will be less bank erosion and sediment input from stream crossings, increased riparian vegetation and habitat, and reduced road and trail surface erosion/sediment delivery. Acres Improved – 139.5 Miles of Routes Decommissioned - 46.02	Active/Passive /Low Active/High Active/Low Active/Low/ High Active/High Active/High Passive/Active /Low Active/High	No No Yes No/Yes Yes No No Yes
Sawtooth National Recreation Area					
Non System Road/Trail Obliteration	**Beaver Cr.** **Frenchman Cr.-Salmon River**	TEOB03, TEOB07, TEOB27, SWOB05, SWOB16, SWOB18, FROB04, REOB01 MA 0249, 0252, 0275	Funds would continue the obliteration of unauthorized roads (and associated dispersed recreation sites) in the Beaver Creek area as authorized in the Beaver Creek Fuels Reduction project. Includes coordination with landowners in nearby community. Acres improved – 27.3 Miles of route decommissioned – 9.02	Active/High Active/High	No No

Project Name	Subwatershed (s) in which restoration occurred	FW or MA Objective addressed	Summary of accomplished work	WARS Restoration Strategy and Priority	ACS priority subwatershed
Alturas Lake Picnic B shoreline rehabilitation	**Upper Alturas Lake Cr.**	TEOB07, TEOB10, TEOB27, SWOB16, REOB01, Upper Salmon River valley MA 0276	Funds were used to design and implement reconstruction and rehabilitation treatments on a short segment of the Alturas Lake shoreline within the Picnic B recreation site. Near-term shoreline resilience was established with an integrated front of conifer rootballs. Soil was added behind this foundation and transplants and seed of native vegetation incorporated into the site. A viewing platform was constructed to continue to provide the scenic vista valued at the site. Finally, forest debris was added for surface protection, and a rustic fence constructed to encumber the restoration area to foot traffic. Miles of stream improved - 2 Acres of lake improved - 3	Active/High	Yes
Programmatic Conifer Encroachment Treatment	**Middle Valley Cr.** **Elk Cr.**	VEOB06	This project treated conifer encroachment in aspen, meadows and sagebrush on the SNRA. Conifer encroachment has resulted in a loss of aspen forest and important wildlife habitat; conifer encroachment in meadows has reduced open meadow habitat and has negatively impacted watershed conditions by reducing available stream flows; and conifer encroachment has increased fuel density and continuity in forested and meadow communities which may lead to increased fire behavior and uncharacteristic fire effects in the event of a wildfire. Treatment areas included both wet and dry meadows and riparian areas. Acres improved - 50	Active/High Active/High	Yes Yes
Carbonate Mine Reclamation	**Slate Cr.**	TEOB03, TEOB07, TEOB09, SWOB16, SWOB18, MIOB02, MIOB08, MA 0342	The Carbonate Mine and Mill Site Remediation and Reclamation Project was implemented according to the Forest Service's Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authorities. Project included clean-up of mine waste, decommissioning of roads, removal of culverts, etc. Acres improved - 21	Active/High	No

Project Name	Subwatershed (s) in which restoration occurred	FW or MA Objective addressed	Summary of accomplished work	WARS Restoration Strategy and Priority	ACS priority subwatershed
Elk Creek 2 diversion implementation	**Elk Cr.**	TEOB07, TEOB10, TEOB27, SWOB16, Upper Salmon River valley MA 0247, 0252	The intent of the project was to resolve a long-standing conflict with fish passage (including 3 ESA listed species) at the Elk Creek EC2 irrigation diversion, as well as augment inadequate downstream streamflows. Resolution required the willingness of the land/water right owner, and a collaboration between the Shoshone-Bannock tribes (funding contributed), Custer Soil and Water Conservation District (prerequisite objectives completed), and the Sawtooth National Recreation Area. Environmental planning for the project was completed in fy2009. Following the relocation to groundwater for the irrigation water source, the diversion intake was plugged using methods proven to reestablish natural, deep rooted, streambanks of willow and sedge in the long-term (3-10 years), while using conifer/rootwad revetment to provide resilience in the near-term. The former ditch was backfilled with the existing ditch sidecast for approximately 200 feet and graded to facilitate natural floodplain functions. Ditchline vegetation was salvaged and transplanted into restored streambank and floodplain areas. More consistent access to approximately 9 miles of upstream habitat is now expected as a result of the project, as well as the restoration of natural downstream flow conditions. Miles of stream improved - 1 Acres improved – 3	Active/High	Yes
Wilderness Campsite and Lakeshore Restoration	**Lower Valley Cr.**	TEOB07, TEOB10, TEOB27, SWOB16	Collection of Grouse Wortleberry seed for seedling production. Seedlings will be used to restore campsites and lakeshore habitat in the Sawtooth Wilderness. Acres of lake improved - 2 Acres improved – 5	Active/High	No

Project Name	Subwatershed (s) in which restoration occurred	FW or MA Objective addressed	Summary of accomplished work	WARS Restoration Strategy and Priority	ACS priority subwatershed
Aquatic Invasive Education Program and Management Strategy	**Lower Redfish Lake Cr.** **Upper Alturas Lake Cr.** **Stanley Lake Cr.**	TEOB03, SWOB16	Initiated boater surveys. Developed early detection/rapid response plan for most probable aquatic invasives. 615 vessels inspected at Redfish Lake 30 vessels at Alturas Lake 20 vessels at Stanley Lake Inspection Station Operated June 24 to September 12 10 boats launched at Redfish Lake after coming from infected water bodies. One dead Asian clam was found in the compartment below the cavitation plate of an engine on August 1. Acres of lake improved - 4	Passive/High Active/High Active/High	Yes Yes No

* Subwatershed names reflect 2008 state certified layer

IV. SUMMARY OF 5-YEAR MONITORING AND EVALUATION RESULTS:

As previously described, Chapter IV of the 2003 Forest Plan established that the formal evaluation and reporting period will occur every 5 years and 2008 marked completion of the first five years of Plan implementation. Therefore, this section of the monitoring report summarizes the results of evaluation of monitoring data gathered over the first five years of Plan implementation. In some instances, where data for 2009 was available, it was included in the evaluation as well. In Section IV-A below, we report out on the regulatory review requirements with 5-year reporting requirements displayed in Table IV-1 of the Forest Plan.

The 2008 Sawtooth National Forest Annual Monitoring Report included an update to Table IV-2. The updated Table IV-2 is included as Attachment 1 to this report. Section IV-B of this report will provide a comprehensive evaluation of information in response to the monitoring questions with 5-year reporting requirements depicted in Table IV-2. For each element addressed, we will answer the following questions:

1. What is the monitoring question to be answered?
2. What objectives were used to answer to monitoring question, and how were they used?
3. Based on the responses to Questions 1 & 2, is there a need for change in Forest Plan direction?

IV-A. 5-Year Monitoring Requirements – Table IV-1:

1. A program of monitoring and evaluation shall be conducted that includes consideration of the effects of National Forest Management on land, resources, and communities adjacent to or near the National Forest being planned and the effects upon National Forest management from activities on nearby lands managed by other Federal or other government agencies or under the jurisdiction of local governments [36 CFR 219.7(f)]

The 2003 Forest Plan does provide for a program of monitoring and evaluation. The Forest has published a detailed monitoring report each year since implementation of the 2003 Forest Plan began. The Forest's annual monitoring program includes a full ID Team field review of a variety of projects across the Forest to determine if: projects have met their intended objectives; the effects of implementing the projects were within the anticipated range of effects documented in NEPA documents; mitigation measures, including applicable Forest Plan standards and guides, were incorporated into the project and successfully implemented on the ground; mitigation measures and Forest Plan standards and guides were successful in achieving the intended resource protection; and projects implemented were consistent with the assigned Forest Plan management prescription. Results of the annual project monitoring reviews have found that Forest management activities, for the most part are not having direct affects on land, resources and communities adjacent to or near the Forest. One noted exception is the Bally Mountain

prescribed fire. As discussed in the 2005 monitoring report, areas within the prescribed burn burned outside of prescription resulting in areas that had previously burned re-burning. Leave areas and avoidance areas were burned as well. As a result, the south facing slopes burned hotter than anticipated and did not meet prescription. This left the south facing slopes vulnerable to increased erosion potential. A very high intensity thunderstorm occurred over the project area on July 19, 2004 (downstream landowners recorded a rainfall level of 7" in one hour). The storm caused significant soil erosion off the prescribed burn site on the south facing slopes. Rill erosion also occurred outside of the burn area however, the extent of erosion was not as severe in these areas. Effects of the soil erosion were noted on private lands adjacent to the Forest. As part of the field review, a mitigation plan was developed and implemented to address the washouts that occurred. In addition, the Forest identified a number of lessons learned with recommended actions to be used and considered in future prescribed fire activities.

2. The Forest Supervisor shall review the conditions on the land covered by the plan at least every 5 years to determine whether conditions or demands of the public have changed significantly [36 CFR 219.10(g)]

In 2008 the Forest completed a "refresh" of the vegetation data used in development of the 2003 Forest Plan. The 1995 "Montana data layer" has been the base data layer for forest analysis since its creation. Since 1995, the Sawtooth has experienced changes to Forested vegetation primarily as a result of fires and insect outbreaks. To effectively model current forest conditions, a refresh of the Montana data layer for the Sawtooth (North) National Forests was required. For the south portion of the Sawtooth Forest, the refresh process used RMRIS classes and 2007 LANDSAT data. Photo Science was contracted to provide the raster data refresh of the vegetation layers. Their methodology is documented in *SW Idaho Vegetation Project, Task 3B: Photo Science Scope (modified July 2008)* and in *Raster Data Refresh of GIS Vegetation Layers to 2008 Conditions, Photo Science Inc., June 13, 2008* (Appendix A).

The "refreshed" data is being used in the forested vegetation Wildlife Conservation Strategy (WCS) currently being developed by the Forest. As part of the WCS process, models used to determine allowable sale quantity (ASQ) and total sale program quantity (TSPQ) are being re-run using the refresh data. While no change in suited acres have been identified through the WCS process, preliminary indications are that there may be some minor reductions in ASQ and TSPQ. However, these reductions still show a higher ASQ and TSPQ than the Forest is currently producing. Based on this information, it does not appear that there has been a significant change in conditions or demands of the public relative to the Forest's wood products program.

The Forest is currently in the process of completing a Vegetation Classification, Mapping, and Quantitative Inventory (VCMQ) of non-forested vegetation types. The VCMQ focus addresses the need for a regionally complete and consistent vegetation classification system that will support the production of mid-level vegetation maps across NFS lands, and a regional plot summary database for FIA and other quantitative inventory data. It will also incorporate vegetation attributes needed to model wildlife habitat into vegetation mapping and quantitative inventory. Ultimately, the VCMQ will be used to produce vegetation maps for the Forest

depicting the geographic distribution, extent, and patterns of vegetation types and/or structural characteristics.

The Forest began an "intensified" data collection of non-forest vegetation data on close to 750 plots across the Forest in 2010. The data is being collected under contract and is expected to be completed by November 2011. Data gathered under the contract includes locating, monumenting and photographing non-forest vegetation plots then collecting the tree, shrub, forb, and grass data using a subset of FIA measurement variables (2008) that are relevant to non-forest conditions. Ground surface cover and downed woody material data will be sampled according to standard common stand exam protocols for plot intensification. The gathered data will be used to map non-forested vegetation across the Forest as part of the VCMQ process.

The Forest is also recollecting forested vegetation data using FIA protocols. This data will update vegetation for use in mapping forested vegetation across the Forest as part of the VCMQ process as well. Forested data collection is expected to be completed by November 2012.

In 2005 and again in 2010, the Forest completed National Visitor Use Monitoring (NVUM). The NVUM program provides science-based estimates of the volume and characteristics of recreation visitation to the National Forest System, as well as the benefits recreation brings to the American public. Completed in 5-year cycles, the NVUM program helps the Forest Service to manage its recreation resources in such a way that best meets the needs of visitors while maintaining the quality of the natural resource base. Results of the 2005 NVUM are summarized below. Results of the 2010 NVUM are being analyzed and will not be available to the Forest until 2011 at the earliest.

In 2005, there were approximately 1,188,600 recreation visits to the SNF according to the National Visitor Use Monitoring (NVUM) report published in 2006 (USDA 2006a). Based on the NVUM survey results, the most popular activities pursued on the SNF include the following: viewing natural features (48.9% of all visitors participated in this activity); hiking/walking (38.9%); viewing wildlife (36.7%); downhill skiing (36.7%); and relaxing (33%). Other activities of interest that were considered in the analysis included the following: driving for pleasure (21%); OHV use (2.8%) motorized trail activity (3.4%); hunting (6.3%); fishing (10.9%); backpacking (2%); horseback riding (1.6%); bicycling (6.3%), and other non-motorized (5.2%).

Overall, the 2005 NVUM found that visitor satisfaction on the Forest was very high, with less than 5% of survey participants expressing less than satisfactory opinions with the type and/or condition of services provided by the Forest. Based on results of the 2005 NVUM, it does not appear that there has been a significant change in conditions or demands of the public relative to the Forest's recreation program. However, the Forest will need to review the results of the 2010 NVUM data once it is received to determine if any changes have occurred since the 2005 NVUM that would warrant a change in program direction.

3. At intervals established in the plan, implementation shall be evaluated on a sample basis to determine how well objectives have been met and how closely management standards and guidelines have been applied. Based upon this evaluation, the interdisciplinary team shall recommend to the Forest Supervisor such changes in management direction, revision, or amendments to the forest plan as are deemed necessary [36 CFR 219.12(k)]

The Forest has included a section on Forest Plan objectives with annual accomplishment requirements in its annual monitoring reports. A review of the results of the monitoring reports indicates that the Forest is making progress on most of these objectives. Inadequate funding does appear to be the biggest factor in not making more movement on objectives. In addition to reporting on Forest Plan objectives in the annual monitoring report, the Forest does include a review of applicable Forest Plan objectives in annual project reviews.

With the exception of the Bally Mountain project mentioned above, the annual project reviews of restoration projects have consistently shown that the projects reviewed are meeting the intended objectives. The Forest is also learning valuable information about the effectiveness of different treatment methods. For example, through the annual reviews, the Forest has looked at several aspen treatments. One of the aspen restoration projects reviewed was a mechanical treatment project on the Minidoka District, the Raft River Aspen Regeneration Project. The results of the project review found that while regeneration did occur, the mechanical treatments had nowhere near the success rate observed with prescribed fire treatments.

The annual monitoring reviews also evaluated if Forest Plan standards and guides were effectively applied. What the review found was that for the majority of projects, mitigation measures designed to insure compliance with Forest Plan standards and guides were clearly defined and standards and guides were effectively applied. Field reviews did find that mitigation measures were not effectively applied in two projects. A review of contributing factors to the failure to properly apply mitigation found two somewhat similar factors applicable to the projects. Both factors involved a failure to either identify or clearly define mitigation measures in the decision implementation documents. For example, in the Dove Creek Quarry mining plan of operation, road reclamation mitigation measures stated when reclaiming the road the operator would rip and pull back sidecast material, recontour and seed. The road was ripped, but because the mitigation measure did not specify that the reclaimed area was to be re-contoured to the natural hill slope or that any degree of seeding success needed to be met, the area was not correctly contoured and it was unclear if seeding had actually taken place. Similarly in the Bally Mountain prescribed burn, the decision clearly included measures for protection of heritage sites. These protection measures were not carried into the burn plan, were therefore not implemented, and as a result some site damage did occur.

After the first three years of project reviews, the Forest ID Team did make presentations to the Forest on lessons learned; success stories to consider in future project designs; and areas for improvement.

Additional information on Forest Plan objective achievement can be found in Section IV-b of this report. Included in the response to monitoring questions listed in Section IV-b, the Forest

addressed a sample of Plan objectives that were responsive to the individual monitoring elements.

4. Documentation of the measured prescriptions and effects, including significant changes in productivity of the land.

As described in number 2 above, the Forest is in the process of completing a forested vegetation WCS. The WCS will include priorities for vegetation treatment to move vegetation towards desired conditions. Because management prescriptions assigned on the Sawtooth are predominantly restoration based (69% of the Forest is assigned to restoration based MPCs), preliminary results of analysis completed for the WCS indicate that there have been no significant changes in the land that would imply a need to change the assigned management prescriptions. Similarly, preliminary model reruns indicate there may be a minor decrease in projected ASQ and TSPQ. As previously stated, the average level of wood products produced by the Forest is lower than what the preliminary model runs depict for ASQ and TSPQ. The final WCS, anticipated to be released in the winter of 2010-2011, will include updated ASQ and TSPQ numbers.

5. A determination of compliance with the following standards: [i] Lands are adequately restocked as specified in the forest plan; [iii] Maximum size limits for harvest areas are evaluated to determine whether such size limits should be continued; and [iv] Destructive insects and disease organisms do not increase to potentially damaging levels following management activities.

All harvest units with restocking requirements were reviewed within the required 5-year survey time frames and the findings of the surveys recorded in the FACTS database. The surveys found that restocking requirements were met on all units. Relative to size limits, no mechanical treatments on the Forest exceeded the 40 acre opening size limit described in standard TRST02. Given the program on the Forest, the 40 acres size limit appears to be valid and does not need to be changed. The Forest was in the middle of an epidemic insect outbreak at the time the revised Forest Plan was released. The insect outbreak was a result of natural cycles and management activities did not contribute to the degree of the outbreak. Rather the Forest did take management action in an attempt to protect high investment areas within and adjacent to the outbreak areas including the use of verbenon pouches, spraying with carbaryl and application of mch flakes. While it initially appears that these treatments have been effective in protecting treated trees, we may not know the overall success rate of the treatments for another 3 to 5 years.

6. Population trends of the management indicator species will be monitored and relationships to habitat changes determined. This monitoring will be do ne in cooperation with state fish and wildlife agencies, to the extent practicable (36 CFR 219.19 Fish and wildlife resource)

Table 3 on page 19 of this report shows the MIS selected by the Forest in the 2003 Forest Plan. The primary role of MIS is to serve as a tool for monitoring and assessing how management activities are affecting major biological communities on the Forest. As such, species selected as MIS are chosen because their population changes are believed to indicate the effects of management activities on the habitat features with which they are associated.

Pileated woodpecker, was selected as the terrestrial MIS selected to represent forested vegetation communities on the Sawtooth. However, pileated do not represent all of the forested potential vegetation groups (PVGs) within which the Forest typically would be expected to implement management activities. PVGs 3, 4 and 7, and PVGs 1 and 2 when in a departed condition, do provide habitat for pileated woodpecker. PVGs 10 and 11, which comprise approximately 39% of the total forested acres on the Forest, do not provide habitat for pileated woodpecker. Although the pileated woodpecker is well documented on the northern Districts and the Sawtooth NRA, the species' range is documented in the literature as not extending south of the Salmon River or to the eastern portion of the Sawtooth NRA (Groves et al. 1997). Pileated woodpecker's range also does not extend to the eastern portion of the Fairfield Ranger District, to most of the Ketchum Ranger District or to the Minidoka Ranger District on the southern portion of the Forest (Groves et al. 1997). Additionally, the species is not documented on the Minidoka Ranger District. As a result, much of the Forest is not adequately covered by a MIS associated with forested habitats. To address this concern, it is recommended that the Forest add Northern goshawk as an MIS and results of population trends be analyzed and reported in the next 5-year monitoring and evaluation report. The Northern goshawk, an R4 Sensitive species, does have habitat distributed across the entire Forest. On the Forest, goshawks do utilize PVGs 1, 2, 3, 4, 7, and 10. The Forest has been annually monitoring goshawk nesting territories and collecting nesting habitat data across most of the Forest.

With the addition of goshawk, PVGs 8, 9, and 11 would continue to not be represented by an MIS. PVGs 8 and 9 represent an extremely small amount of the forested acres on the Sawtooth NF (approx. 1000 acres). PVG 11 represents 20% of the total forested acres, all at high elevations, on the Forest. The majority (74%) of PVG 11 is assigned to passive restoration MPCs. About 54,860 acres of PVG 11, or 5.3% of the total forested acres on the Sawtooth, are assigned to active restoration MPCs (see Table 7 below). Of the acres of PVG 11 acres assigned to active restoration MPCs (35,202 acres), the majority are located within Inventoried Roadless Areas where management activities are highly regulated and access is limited (see Table 7 below). Considering this situation, the potential for management activities within PVGs 8, 9, and 11 is anticipated to be very low. Given the low potential for management activity within PVG 11 and the intent of 36 CFR 219.19 when selecting MIS, the Forest determined that there is not a need to select an MIS to represent PVG 11.

Table 7: Acres of PVG 11 within IRAs assigned to active restoration MPCs

	Management Prescription Category			
	MPC 3.2	MPC 4.2	MPC 5.1	MPC 6.1
Acres of PVG 11	33129.0	540.9	28.2	1504.1

Active Restoration MPCs = 3.2, 4.2, 4.3, 5.1 and 6.1
Passive Restoration MPCs = 1.1, 1.2, 2.1, 2.2, 3.1, 4.1a and 4.1c

Table 8 below displays how PVGS will be represented by MIS across the Forest with the addition of Northern goshawk as an MIS. If management actions are successful in moving PVGs 1 and 2 towards HRV, monitoring should indicate decreasing populations and levels of activity for pileated woodpeckers.

The discussion of population trends for terrestrial MIS is discussed in the results for monitoring element 26 in section IV-B below.

Table 8: MIS Representation by PVG

Fire Regime – Potential Vegetation Group (PVGs)		**Forested PVGs**		**Active Restore**	**Passive Restore**	**MIS Species**
		PVG Acres	**% Total PVG acres**			
Non-lethal	PVG 1-Dry PP/Xeric DF	39,000	4%	26%	74%	Pileated Woodpecker Northern Goshawk
	PVG 2 -Warm Dry DF/Moist PP	11,000	1%			
	Total	50,000	5%			
Mixed 1	PVG 3-Cool Moist DF	38,000	4%	46%	54%	Pileated Woodpecker Northern Goshawk
	PVG 4- Cool Dry DF	209,000	20%			
	Total	247,000	24%			
Mixed 2	PVG 7-Cool Dry SF	330,000	32%	26%	74%	Northern Goshawk Pileated Woodpecker (PVG 7 only)
	PVG 11- High Elevation SF	211,000	20%			
	Total	541,000	52%			
Lethal	PVG 8- Cool Moist SF PVG 9-Hydric SF	1,000	<1%	63%	37%	Northern Goshawk (PVG 10 only)
	PVG 10-Persistent LPP	203,000	19%			
	Total	204,000	19%			

Pileated Woodpecker: Historical Habitat – PVGs 3, 4, 7; Habitat when departed - PVGs 1 and 2
Northern Goshawk: Historical Habitat – PVGs 3, 4, 7 and 10; Habitat when departed - PVGs 1, 2, 3, 4, and 7 [moderate (PVG 2) or high (PVGs 1, 3, 4, 7) canopy closure]
PVG 11 – 54,860 acres assigned to active restoration MPCs, 35,202 of these acres are located within IRAs

Bull trout it the only aquatic MIS on the Forest. The fundamental unit for monitoring to determine bull trout trend on the Forest is a patch. A bull trout patch is defined in Peterson, et al. (2002) and further clarified by the U.S. Fish and Wildlife Service Bull Trout Recovery Monitoring and Evaluation Group as contiguous areas within a stream network where spawning and early juvenile rearing could occur and potentially support a local population. Patches are

intended to provide the basis for a consistent sampling unit that can be used to track changes in the distribution of bull trout populations.

The Sawtooth worked with the PACFISH, INFISH Biological Opinion (PIBO) monitoring group in Logan, Utah to develop a monitoring approach to determine habitat trend. To evaluate habitat condition, an integrity index of physical habitat indicators identified from reference reaches was used to develop an index of physical habitat conditions to be monitored.

Patch data collected over the past five years were compared with information collected prior to 2004 to provide a preliminary indication of bull trout trend across the planning unit (Table 5 and Figure 2, 2009 MIS Final Bull Trout Report). Results from this comparison indicate a slight increase in bull trout distribution in the S.F. Boise, M.F./N.F. Boise, and Upper Salmon subbasins over the last five years. Bull trout were probably present, but previously undetected, in many of the patches that are now reclassified as occupied (category 1). Results from this comparison also show an increase in the number of unsuitable/inaccessible patches in the S.F. Boise and Upper Salmon subbasins (Table 6, 2009 MIS Final Bull Trout Report). These patches were reclassified as unsuitable based on recently acquired data that documented unfavorable existing conditions such as streams with culvert barriers, maximum weekly maximum temperature that exceed 15 °C over most of the available habitat, abundant brook trout populations and no strong bull trout populations in adjacent streams. Still, the data indicates that bull trout presence is more robust than previously thought and that bull trout continue to occupy most patches where previously detected. The following summarizes the primary factors influencing bull trout presence and trend on the Sawtooth:

> Water temperature is one of the most important factors influencing bull trout presence. Bull trout are among the most thermally sensitive species and their occurrence declines rapidly as maximum weekly maximum temperature (MWMT) exceeds 15 °C. Many of the patches with local and potential populations, as designated in the FWS recovery plan, where bull trout have not been found have maximum daily maximum temperature (MDMT) above 15 °C. Some accessible headwater reaches support water temperatures below 15 °C, but not over enough area to sustain a viable local population. Although we are unsure of the precise causes of warm water temperatures in each patch, some warmer temperatures are due to streams draining lower elevation watersheds. These streams do not retain their snowpack as long as high elevation streams or have as much cold water recharge. Warmer temperatures in other patches may be due to water diversions withdrawing stream flows or outflow of warmer water from beaver ponds.
>
> Route density (system roads, motorized trails, and motorized non-system routes) was calculated for each patch and riparian conservation areas (RCAs) within each patch. This information was used as a surrogate to determine how much management activity may have occurred and if this influenced the presence of by bull trout within patches. The mean route densities within unoccupied patches were significantly greater than route densities within occupied patches (means, 1.22 v. 0.62; $P < 0.001$, n=100). Of the 70 unoccupied patches, 37% have road densities less than 0.7 mi/mi^2, 40% are in the 0.7-1.7mi/mi^2 range, and 23% have densities greater than 1.7 mi/mi^2. Of the 30 occupied

patches, 57% have road densities less than 0.7 mi/mi^2, 37% are in the 0.7-1.7mi/mi^2 range, and only 6% have densities greater than 1.7 mi/mi^2.

In 2008, the Fairfield Ranger District revised their summer Sawtooth National Forest Visitor/Travel Plan (1989 Travel Plan) to restrict motor vehicle use to designated roads and trails within all areas currently open to cross-country travel on the District. The proposed action eliminated cross-country travel and user created non-system routes. Some of these areas occurred within the Little Smoky, Boardman, Beaver, etc. bull trout patches. Route densities should slowly decline as user created and some system routes are removed. Conversion of system routes to non-system routes will also benefit aquatic resources by removing motorized routes near streams and riparian areas. Motorized routes encourage additional stream crossings and dispersed campsites in areas where terrain is conducive for such activities. Conversions also benefit aquatic conditions by reducing sediment sources and restoring natural slope hydrology as stabilization measures are implemented.

Culvert inventories were completed on all fish bearing streams in 2003 and 2004 on the Sawtooth National Forest. No culvert barriers were found in any fish bearing streams within occupied bull trout patches. In contrast, 26% (19 of the 72) of the unoccupied patches had culvert barriers. Most of these culverts occur at or just upstream of the patches' confluence, blocking most of the historic habitat. Culvert barriers appear to be an important reason why bull trout are not found in some patches.

A number of projects have been completed over the five year monitoring period that address fish passage flood flows, and bedload movement (refer to Attachment 2 for a list of projects). In 2005 a culvert was removed in the Salt Creek bull trout patch in the S.F. Boise River to restore upstream fish passage. Removal of the culvert provided access to two miles of habitat in Salt Creek. In 2006, a culvert was removed from the Big Water Gulch bull trout patch to restore upstream fish passage to two miles of stream. The perched round 48" diameter culvert was replaced with a round 120" diameter culvert. The new culvert was countersunk about 5 feet and filled with appropriate substrate to simulate a natural stream channel. Several more culverts need to be addressed, but these actions represent a good start in improving bull trout passage.

Water diversions may also limit summer access in several patches. Sixty-two diversions occur in unoccupied patches vs. 24 diversions in occupied patches. It is unknown to what degree these limit access within and between patches because fish passage has not been inventoried at all of the diversions. Water diversions pose one of the biggest challenges to bull trout on the Forest. The Forest continues to work on an "Agreement in Principle" to determine minimum stream flows and other restorative measure that could be taken to correct passage and habitat issues.

Another factor influencing bull trout distribution and trend is the presence of brook trout. Non-native brook trout are known to hybridize with bull trout and competitively exclude them from suitable stream habitats (Benjamin et al. 2007; Rieman et al. 2006). Rieman and McIntyre (1993) concluded that brook trout presence and density were important variables explaining the observed distributions and number of bull trout among streams. At this time the Forest has not taken action with Idaho Fish and Game to remove brook trout in bull trout patches. This is in part due to the practicality and cost of removing brook trout over large distances of stream. The only

feasible way to remove brook trout is to use a piscicide to kill them. Unfortunately, this would also kill native species and other listed species that may occur within the same stream. Several years of treatment may also be needed depending on how difficult the stream is to treat and temporary barriers would need to be installed to prevent reinvasion by brook trout.

Recommendations: Bull trout were selected as a MIS because they are sensitive to habitat changes, changes to their populations could occur before they occur in other fish species, populations have not been influenced by fish stocking, and they were widely distributed across the Ecogroup. Direction for MIS species under the 1982 planning rule stated that the U.S. Forest Service should select species whose population trends are believed to reflect the effects of management activities on Forest ecosystems. Specifically, these species shall be selected because their population changes are believed to indicate the effects of management activities." Surveying since 2002 has found that most bull trout populations occur in drainages that have fewer management activities. Roads, trails, grazing, dispersed and developed recreation, etc. occur within occupied drainages. However, there are other management activities (i.e. prescribed fire, thinning, etc.) that the Forest implements/manages that do not occur as frequently within occupied bull trout drainages.

An additional MIS species on the Forest may better capture these activities and allow the Forest to evaluate what effects they are having to watershed and habitat conditions, and ultimately population status. Yellowstone cutthroat met much of the MIS criteria when species were being selected in 2002. Ultimately, they were not selected because hybridized cutthroat were almost impossible to identify in the field making tracking of population status difficult. All Yellowstone cutthroat populations have now been genetically tested. We now know which populations are pure and which ones are hybridized. Given this, it is recommended that the Forest add Yellowstone cutthroat trout as an additional MIS species to better determine what effect management activities are having on watershed and habitat conditions, and ultimately population status on the southern portion of the Forest.

The Forest is making progress towards meeting Forest Plan objectives and trending towards desired conditions for aquatic MIS through project implementation. Therefore, the Forest has not identified any needed changes in Forest Plan direction specific to aquatic MIS at this time.

7. Accomplishment of ACS priority subwatershed restoration objectives.

Projects focused in ACS priority subwatersheds accomplished 11.1 miles of stream, 15 acres of lake, and 3,841 acres of riparian and upland (watershed) improvements over the five year period (see Table 9). Projects focused in WARS high priority subwatersheds accomplished 22.7 miles of stream, 13 acres of lake, and 2,857 acres of riparian and upland improvements on the Forest. See the response to Restoration Activities, Forest Plan Element No. 24, below for a more detailed discussion of accomplishment of ACS priority subwatershed restoration objectives.

Table 9 –Aquatic Restoration Projects Within ACS Priority Watersheds

	2004	2005	2006	2007	2008	2009	Total
Miles of Stream Improved	0	2.5	2.6	2	4	12.3	23.3
Acres of Lake Improved	5	0	5	2	3	1	16
Acres of Watershed Improved	154.8	23	263	222	809	369.7	1,841.5

8. Terms and conditions or reasonable and prudent measures that result from consultation under Section (a) of the Endangered Species Act

A. Terms and Conditions - Summary of findings:
Both NOAA Fisheries and the USDI Fish and Wildlife Service (USFWS) issued Biological Opinions in response to the Federal Action (i.e. proposed action or management strategy) outlined in the 2003 Forest Plan. However, only NOAA Fisheries issued reasonable and prudent measures and related terms and conditions with their Biological Opinion. Reasonable and Prudent Measures (RPMs) are non-discretionary measures to minimize take that may or may not already be part of the description of the proposed action. They must be implemented as binding conditions for the exemption in section 7(o)(2) to apply. The Forest Service has the continuing duty to regulate the activities covered in this incidental take statement. If the Forest Service fails to carry out required measures, fails to require applicants to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, or fails to retain the oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) that will become effective at the project level may lapse. To be eligible for an exemption from the prohibitions of Section 9 of the ESA, the Forest Service must comply with the following terms and conditions, which implement the reasonable and prudent measures described above for each category of activity. These terms and conditions are nondiscretionary.

The terms and conditions related to two of the three RPMs in the NOAA Fisheries Biological Opinion apply to the Sawtooth and require annual reporting. These terms and conditions are identified below, along with the accomplishments related to them.

During the 5-year monitoring period there were no consultations completed that required terms and conditions or reasonable and prudent measures.

RPM #1: Minimize the likelihood of incidental take by clarifying local sideboards pertaining to:

Fire Management timelines for fire operational resource guidance
As described in the annual monitoring reports, Fire operational guidelines were developed in the spring of 2004. Guidelines from the Boise National Forest were adapted as a starting point. Since the Sawtooth National Forest shares many of the same watersheds with the Boise National Forest, it was felt that having similar criteria would lead to more consistent

measures to mitigate potential fire suppression effects. Final acceptance of the guidelines by the regulatory agencies (U.S. Fish and Wildlife Service/NOAA Fisheries) occurred in May 2004. In 2006, the Boise NF and Sawtooth NF completed a Programmatic Biological Assessment (BA) for Wildfire Suppression and Wildland Fire Use activities that incorporated and improved upon the 2004 guidance. This BA was submitted for informal consultation, which concluded with letters of concurrence from the FWS and NOAA on 08-11-2006 and 08-30-2006, respectively.

RPM #2: Minimize the likelihood of incidental take by maintaining the necessary linkages between the Sawtooth National Forest Plan and broad-scale restoration/recovery strategies. To implement RPM #2 the Sawtooth National Forest is required to:

a. Provide an oversight and accountability body that links to IIT by continuing to work with the IIT and provide exchange of information regarding processes that are local in scope, but have broad-scale implications, such as subbasin planning, watershed analysis and monitoring.

The intent of the IIT implementation monitoring was to track implementation of management direction at the level of the FS Land and Resource Management Plan or BLM Resource Management Plan for the salmon, steelhead, and bull trout listed in the Upper Columbia and Snake River Basins. Specific objectives are to:

- Provide a reporting format for all Level 1 Team implementation monitoring requirements, and ensure a "feedback loop" for Level 1 Teams and Managers to accomplish agency adaptive management;
- Meet the broad-scale, mandatory requirements and commitments of the PACFISH/INFISH, the 1998 Biological Opinions, and the IIT Charter;
- Provide documentation to show that direction in PACFISH, INFISH and the 1998 Biological Opinions is being implemented on the ground; and
- Document status and trends in implementation of federal activities by land management agencies, including locations of non-compliance with the aquatic conservation direction.

It was hoped that data collected by the Implementation Monitoring Module, in combination with data from the Effectiveness Monitoring Module, would provide information to help validate the basic assumptions under which the management direction was developed.

In 2005, the Southwest Idaho Ecogroup initiated discussions with the U.S. Fish and Wildlife Service and NOAA Fisheries on how to best compliment continued IIT monitoring. An interagency workgroup reviewed the existing IIT database to determine how to best adapt the PACFISH/INFISH questions to the revised forest plans. The current IIT database consists of a "Line Manager" certification form that asks key questions relating to the PACFISH/INFISH strategies and consultations. It also includes key questions on standards and guideline for specific management activities.

The interagency workgroup developed an Ecogroup Line Officer Certification Form, and its related attachments, that were complementary to the forms used by Forests and BLM

units who continue to operate under PACFISH and INFISH. Specifically, the information developed by the team addressed:

1. Relevant standards and guidelines in the SWIE LRMP identified in ACS Component #4
2. Processes/actions related to WARS and Framework.
3. Tools and processes to manage risk for ESA-listed salmon and steelhead identified in LRMP BO and SWIE LRMPs.
4. Processes to ensure accountability and successful outcomes for ESA-listed salmonids through Forest Plan implementation identified in LRMP BO and SWIE LRMPs.
5. Watershed and Aquatic Recovery Strategy (WARS) Accomplishments.
6. Key questions relating to grazing practices, facilities, handling, and implementation monitoring.

Expectations are that SWIE Forests will address this information annually in a web based database and report results to U.S. Fish and Wildlife Service, NOAA Fisheries, and the Interior Columbia Basin Deputy Regional Executive Team.

A review of the discussions in the annual monitoring reports finds that with the exception of FY2007, compliance did occur with all elements. The Forest continues to work to get all back log data entered into the database.

b. In the Upper Salmon, South Fork Salmon, and Little Salmon River subbasins, not allow likely to adversely affect actions with adverse effects lasting 3 years or longer on ESA-listed anadromous fish species or their habitat prior to completion of the appropriate consultation framework document, unless informed or driven by recommendations from existing or new subbasin assessments or watershed analyses.

No likely to adversely affect actions were submitted for consultation in the Upper Salmon River subbasin during the 5 year monitoring period.

B. Conservation Recommendations that resulted from consultation under Section (a) of the Endangered Species Act.

In addition to the RPMs, the following conservation recommendations resulted from consultation with USFWS and NOAA fisheries:

1. The USFS should evaluate and report to NOAA Fisheries the effectiveness of rehabilitation efforts in RCAs in response to fire suppression activities (use of heavy machinery, fire retardants, camp and base locations, etc.) that affected RCAs.

During the 5-year monitoring period, the Forest experienced two large fires within drainages that supported listed anadromous fish, the 40,838 acre Valley Road fire in 2005; and the 4,252 acre Trailhead fire in 2006. Fire suppression activities within RCAs associated with these fires are discussed in detail in the annual monitoring reports. As described in the monitoring reports, appropriate post-fire restoration of suppression related

activities did occur and appropriate screening of hoses used for water drafting during fire activity did occur.

2. For subbasins identified as currently having moderate to high levels of recreation (i.e., Little Salmon, Lower Salmon, Middle-Salmon Chamberlain, South Fork Salmon, and Upper Salmon subbasins), the Forest Service should evaluate and describe (in its 5-year Forest Plan monitoring reports) how changing levels of recreation are expected to affect ESA-listed anadromous fish and designated critical habitat throughout the remainder of the planning period.

Evaluations of recreational activities and facilitates has not yet occurred in the Upper Salmon subbasin. However developed recreation is being addressed by the SNRA staff through site-specific modification/improvements to developed rec. sites, trailheads, etc.

3. Over the planning period, the Forest Service objective for fish habitat restoration should be to move at least two ACS Priority Subwatersheds per subbasin into a "functioning appropriately" condition. The SWIE Matrix (LRMP Appendix B) should be used to assist in assessment of this objective. In addition, the Forest Service should initiate habitat improvements in the other ACS Priority Subwatersheds as identified by WARS. The strategy to achieve this objective should include steps to coordinate restoration activities, and should take advantage of opportunities to pool funding (within Forest Service, and among other sources including NOAA) across administrative boundaries to accomplish top priority restoration projects.

See the response to monitoring element 24 in section IV-B. 5-Year Monitoring Requirements – Table IV-2, below.

4. Cooperate with the State of Idaho, Tribes, and others to evaluate bull trout subpopulation status and distribution on a regular basis.

The Forest has met annually with Idaho Department of Fish and Game (IDFG) to discuss bull trout monitoring. These meetings included annual District and Forest coordination meetings where the Forest worked with the IDFG to determine which streams each agency would sample and to share results from the previous year's monitoring.

The Sawtooth National Forest participated in several meetings with Rocky Mountain research Station in Boise in 2010 to discuss bull trout monitoring. These included discussions on where to place long-term temperature sensors and how to model existing temperature data to evaluate suitable habitat within each bull trout patch.

5. Participate in and promote opportunities to study local populations of bull trout to gain a better understanding of conservation and recovery needs at a local scale.

The Forest continues to gather information on the presence and vitality of bull trout for ESA and MIS purposes. More specifically, the current efforts focus on determining

whether bull trout and/or reproducing bull trout populations exist in specific streams on the Fairfield Ranger District and Sawtooth National Recreation Area (SNRA). A detailed description of bull trout monitoring can be found in the annual Aquatic Management Indicator Species monitoring reports. A summary of the 5-year monitoring results is also included in the response to element 6 - *Population trends of the management indicator species will be monitored and relationships to habitat changes determined,* in section IV-A. 5-Year Monitoring Requirements – Table IV-1 above.

6. Cooperate with others in efforts to reduce densities and distribution of brook trout, and to manage habitat to provide a competitive advantage to native salmonids, especially bull trout.

In 2005, the Sawtooth National Forest entered all legacy data on fish distribution on the Forest into NRIS Water. The Forest electrofished 20 streams to determine the distribution of native and non-native fish species. Finally, the Forest acquired other agency data through coordination meetings or web-based databases. Brook trout distribution maps were assembled and used in a brook trout assessment report the Forest drafted in 2006.
The 2006 draft assessment addressed factors influencing brook trout distribution and potential priority areas to reduce brook trout populations on the Forest. Several streams were selected where eradication efforts would have a high probability of success. On the Minidoka District, Cassia, New Canyon, Cold Springs, One-mile, and Johnson Creeks are inhabited by Yellowstone cutthroat trout and brook trout. Each of these small streams have relatively simple habitat and contain numerous potential culvert barriers. In addition, all of these Yellowstone cutthroat trout populations were deemed "conservation populations" by a multi-agency status review of Yellowstone cutthroat trout (May et al. 2001).

In 2007, the Forest completed electrofishing removals of brook trout in the Cassia Creek drainage. No work was completed in 2008 to directly reduce brook trout densities. However, several habitat improvement projects were completed that hopefully will help native species maintain a competitive edge over brook trout, where brook trout population still have low densities.

7. Cooperate to increase the benefits for bull trout from work on Forest system lands and efforts by the State, counties, and other Federal agencies to conserve and recover the species. In particular, assist in identifying actions to remove barriers to bull trout movements in locations where the Forests is also doing work to resolve passage problems and improve habitat.

In FY 03 and FY 04, approximately 500 stream crossings were inventoried on the Sawtooth National Forest. The purpose of the culvert inventory was to better describe the extent of culvert barriers across the Forest to fish and associated aquatic species. The inventory found that 112 of the 500 crossings fall within bull trout habitat. Approximately 70% of these culverts are barriers to juvenile and adult bull trout. The culvert assessment was used to prioritize culvert improvement projects. As a result of the findings of the culvert inventory, the Forest has begun to implement restoration projects. Projects completed include:

- Removal of a road crossing in Salt Creek where the culvert had too large of an outlet drop and too high of a gradient, restoring 2 miles of fish habitat to bull trout and other species in the S.F. Boise River.
- Replacement of a perched culvert from Big Water Gulch Creek with a countersunk culvert filled with appropriate substrate to simulate a natural stream channel, restoring 2 miles or more of Big Water Gulch Creek to passage by bull trout and other aquatic organisms.
- Reconstruction of fords on FR 079 road of lower Emma Creek in the S.F. Boise subbasin to reduce sedimentation of habitat and improve access during low flows.
- Coordination with Federal Highways in the completion of NEPA and consultation for the replacement of culverts in Goat and Iron Creeks in Valley Creek in the Upper Salmon. Replacement of these culverts should take place in FY10 and will improve fish passage to several miles of habitat in each stream.
- The Forest also continues to work on the diversion strategy that will identify which diversion pose the greatest risk to habitat and fish passage in the Upper Salmon subbasin.

9. Effectiveness of mitigation measures and monitoring of risk factors described in the Record of Decision for the Forest Land and Resource Management Plan.

The ROD for the Forest Plan includes the following risk factors and mitigation measures:

a) Forest Plan management strategies may affect the risk of disruption, vulnerability and disease to terrestrial wildlife species.

The Revised Plan addresses habitat fragmentation and species disruption and vulnerability through management direction or emphasis that: 1) incorporates the consideration of fragmentation and disruption effects into project design and implementation, 2) recommends seasonal road closures to address big game vulnerability, (3) emphasizes decommissioning roads no longer needed, and 4) maintains the unroaded status of most roadless areas.

The Revised Forest Plan for the Sawtooth places a strong emphasis on restoration of both aquatic and terrestrial habitats. As such, the Forest has implemented numerous restoration projects across the Forest (see Attachment 3 for a list of accomplishments). Restoration projects included mitigation measures such as timing restrictions to protect wildlife during critical life stages, identification of leave trees, and completion of presence/absence surveys prior to issuance of authorization to begin work.

In addition to the restoration projects, the Forest completed travel planning for summer motorized use in 2008. One of the key issues considered in the decisions was effects to terrestrial wildlife species. Among other things, the Travel Plan decisions included closure

of 952 miles of motorized user created routes, closure of the Forest to cross-country motorized use, and seasonal closures to protect wildlife during critical life stages.

The Forest also completed NEPA analysis on several range allotments during the monitoring period. Affects of livestock grazing to terrestrial wildlife species was considered as a key issue in those analyses and helped to guide allotment management decisions and required short-term and long-term allotment monitoring.

Since the revised Forest Plan went in to effect, the Forest did approve construction of one new road within a roadless area. The road, which was subject to reserved rights, provided private access to a private inholding located within the Raft River Inventoried Roadless Area.

Over the last three years, the Forest has seen an increasing interest in wind farm development. The Minidoka District issued a special use permit for installation of two test towers on the Cassia Division and is processing an application for two more towers. Interest has also been expressed by a wind development company out of Utah for installation of test towers on the Raft River Division but not formal application has been filed to date. These types of projects do have the potential to increase wildlife disruption and vulnerability. This issue will need to be thoroughly analyzed should results from the test towers indicate that the Forest would be a good source for siting of wind towers.

To address concerns over the potential for disease transmission between domestic and bighorn sheep, the Forest is working with the Regional Office on a comprehensive strategy to address disease transmission. Regions 1 through 6 have agreed to fund a proposal to export the bighorn sheep model developed on the Payette National Forest for use on other National Forests. This effort would provide for the development and expansion of the Payette process for use by Forests in analyzing potential effects of domestic sheep grazing on bighorn sheep.

The Forest is working with the Idaho Department of Fish and Game to identify occupied bighorn sheep habitats on the Forest and to assess risk of contact between bighorn and domestic sheep on sheep allotments on the Forest. To assess risk of contact the Forest is working to:

1) Map seasonal bighorn sheep occupied habitats and observation data.
2) Map suitable habitat connectivity and potential overlap between BHS observational data and current domestic sheep allotments.
3) Estimate the probability of bighorn sheep forays from areas where BHS have been observed and the likelihood of contact (high, moderate, low) between bighorn sheep and domestic sheep.
4) Assess the timing, position, and numbers of domestic sheep in relation to the temporal and spatial nature of bighorn sheep on the Forest. This assessment will take in to consideration typical season of use for big horn versus on-off dates for domestic sheep to determine the likelihood of big horn sheep and domestic sheep using the same areas at the same time.

In the interim, there are best management practices (BMPs) in place for most domestic sheep allotments on the Forest that fall within occupied big horn sheep habitat. These BMPs do include provisions for monitoring and reporting big horn sheep observances within or adjacent to domestic sheep allotments, and preventing contact between domestic sheep and big horn sheep. The BMPs were developed between the permittees and the Idaho Department of Fish and Game and involve specific reporting protocols. While BMPs are not in place for all sheep allotments within occupied or potentially occupied big horn sheep habitat, the Forest is continuing to work with permittees to encourage them to enter in to such BMPs with the Fish and Game.

b) Forest Plan management strategies may affect the amount of vegetation at risk to uncharacteristic wildfire and epidemic insect disturbances.

Since implementation of the Forest Plan in September 2003, the Forest has implemented several vegetation treatment projects with objectives for reducing risk of uncharacteristic wildfire and insect and disease epidemics. It should be noted that at the time the ROD was signed for the 2003 Forest Plan, the Forest was in the midst of a significant insect epidemic on the Sawtooth NRA. As such, a majority of the vegetation treatments were conducted within the Sawtooth NRA to reduce risk of uncharacteristic fire associated with dead and down material from the mountain pine beetle outbreak and to protect vegetation within developed recreation facilities. Across the Forest, treatments maintained or improved condition class and reduced risk of uncharacteristic wildfire and epidemic insect disturbance on approximately 55,005 acres. Approximately 16,262 acres (23%) were treated in Condition Class 1 (mixed2) fire regimes; 27,364 (49%) acres in Condition Class 2 (mixed1) and 11,379 (21%) acres within Condition Class 3 (nonlethal). Treatments included a variety of activities including prescribed fire, mechanical treatments such as small timber sales, use of verbenone pouches, spraying with carbaryl and, in 2010, aerial application of MCH flakes. In addition, the lightning ignited 2008 South Barker fire was managed to allow fire to perform its natural role in the ecosystem. This resulted in a modification of future fire behavior and resilience to disturbance.

In 2010, approximately 2,000 acres on and around the Bald Mountain Ski Area were treated with MCH flakes to reduce the potential for Douglas-fir beetle mortality. Many stressed but surviving Douglas-fir trees scorched by the 2007 Castle Rock Fire have become hosts for the Douglas-fir bark beetle (DFB). Increasing populations of DFBs emerging from these stressed trees will infest and overwhelm the natural defenses of otherwise healthy, green Douglas-firs outside the perimeter of the Castle Rock Fire, including Bald Mountain, unless action is taken to protect them. The acres treated with MCH flakes will continue to be treated annually for a period of 5 years.

c) Forest Plan management strategies may affect the amount of vegetation at risk to wildfire and at what rate hazardous conditions are reduced in areas where there are threats to life and private property (wildland-urban interface).

Within the Wildland Urban Interface, treatments accounted for 8,845 acres or 1,769 acres annually. Most WUI treatments occurred on the Sawtooth NRA in response to the mountain pine beetle epidemic. Additional WUI areas treated included Howell Canyon and Upper Rock Creek Canyon on the Minidoka Ranger District and the Soldier Mountain area on Fairfield District. These treatments will modify wildfire within the treated area.

d) Relative to the NFMA requirement that "…permits, contracts, and other instruments for use and occupancy" of National Forest System lands be "consistent" with the Forest Plan (16 U.S.C. 1604(i)), the ROD includes the following mitigation measure: "It is my intention to bring Term Grazing Permits into compliance with the Revised Plan in a two-step process:

> **1. Upon approval of the Revised Plan, all grazing permits will be modified with a Standard Modification form, part 3 of the term grazing permit, as appropriate, to include applicable direction. This includes, but may not be limited to, standards and guidelines for forage utilization and water and riparian resources.**
> **2. When Allotment Management Plan NEPA documentation is completed per the Rescission Act (Public Law 104-19, section 504; July 27, 1995) schedule, additional direction from the project specific NEPA document will be incorporated into the term grazing permit."**

Forest Plan direction for rangeland resources was incorporated into grazing permits. As NEPA is completed on individual allotments, an evaluation as to whether or not grazing as currently permitted is meeting Forest Plan direction is completed. Where it is determined that Forest Plan direction is not being met, changes to the term grazing permit are made. Depending on the types of changes required, additional monitoring requirements may be included to insure that the required changes are resulting in movement towards goals and desired conditions listed in the Forest Plan.

IV-B. 5-Year Monitoring Requirements – Table IV-2:

Forest Plan Element No: 1

Activity, Practice, or Effect to Be Measured: Perception of Management Activities on the Forest

Representative Forest Plan Management Direction:

- SEOB02 - Provide opportunities for cooperation by enhancing public involvement efforts in Forest activities through the media, stakeholder workshops, personal contacts, and other methods.

Monitoring Question: Are interested citizens raising concerns about management activities?

Indicator: Comment cards, personal contacts, level of NEPA/NFMA involvement, appeals, litigation

Methodology: Review of substantive comments and NEPA decision appeals and/or feedback from Forest personnel staffing public events (i.e., county fairs, Idaho Sportsmen's Show, etc.)

Monitoring Results/Discussion:
The Forest is required to conduct scoping on all Forest proposed actions, even those that are categorically excluded from documentation in an environmental assessment or environmental impact statement. Because the nature and complexity of proposed projects can vary significantly, there is no single, required, scoping technique. The level of scoping for any given project is typically determined by reviewing the scope and complexity of the project, identifying preliminary issues that may be associated with the project, and identification of potentially interested and affected persons. On the Sawtooth, common scoping techniques include developing and posting project scoping notices on the Forest's web page, publication of news releases, mailing scoping notices to known interested parties, and publication of legal notices. For more complex projects, the Forest may publish preliminary scoping notices prior to the release of a formal scoping notice and may also schedule open houses or public meetings. For some minor projects categorically excluded from documentation in an EA or EIS, scoping may be more focused, with direct contact with known interested parties. All projects are required to be listed in the quarterly Schedule of Proposed Actions posted on the Forest's web page. However, there have been a few instances where projects were inadvertently left off the list. These were all small projects categorically excluded from documentation in an EA or EIS.

Since October 2003, the Forest has issued 178 project decisions (SOPA data base, 8/17/2010). Of those decisions, 4 were based on analysis documented in an EIS, 21 were based on analysis documented in an EA and 153 were CEs. The majority of projects authorized under Decision Memos through the CE process were special use permits, watershed and wildlife habitat improvement projects or trail maintenance/relocation projects.

The majority of projects proposed on the Sawtooth receive little if any public comment. Habitat improvement projects typically receive supportive comments whereas minor special use permit projects typically receive no comments. On the other hand, most grazing related proposals generate some level of public comment. These comments generally come from two different viewpoints. First there are groups that do not feel national forest system lands, and in particular lands within the Sawtooth National Recreation Area, should be used for livestock grazing. These groups tend to comment on all range related projects and appeal most range related decisions. These groups also litigate some range related decisions. On the other side are the range permittees and livestock advocacy groups. Permittees typically provide comments on projects associated with their allotments, appeal allotment decisions that they feel negatively impact their operations, and do file as interveners in litigation cases involving their allotments. Similarly, livestock advocacy groups comment on range related decisions and provide support to permittees in appealing range related decisions.

While the majority of projects completed on the Forest have generated little to no public comment, two projects proposed during the first 5-years of plan implementation did – the Galena

Summit Communication Project and the Travel Map Revision-Elimination of Motorized Cross-Country Travel and Motorized Route Designation.

The Galena Summit Communication Project generated a significant number of comments from the public with approximately 50% of the commentors strongly in favor of the proposal and 50% strongly against the proposal. The original decision for this project was issued in July 2008 and was appealed by the tower proponent and two individual appellants. Upon review of the appeal, it was decided that the Forest failed to provide the public with an opportunity to comment on a proposed non-significant Forest Plan amendment to change the mapped Visual Quality Objective. The decision was remanded back to the Forest with direction to scope the proposed Forest Plan amendment. In total, the Forest received 97 comments on the formal scoping period for the decision issued in 2008 and over 300 comments on the formal scoping announcement for the 2009 decision. Every comment was reviewed and considered in the analysis and decision. Both the 2008 and the 2009 decisions denied the application for the proposed cell tower based on impacts to visual resources. Those who felt the cell tower should be denied felt that the FS listened to their concerns, where as many who felt the tower should have been authorized felt FS did not listen to their concerns.

Like the Galena Summit Communication project, the Travel Map Revision-Elimination of Motorized Cross-Country Travel and Motorized Route Designation project generated a significant number of comments from the public with widely varying opinions on how motorized travel on the Forest should be managed. Recognizing that there would never be consensus as to how motorized use should be managed, the Forest chose to ramp up public involvement efforts. Throughout the process, the Forest asked for public input to identify which existing designated and non-designated routes and areas should be designated as open to motorized use. Input was solicited through a series of mailings, news releases and open houses. Information received from public involvement efforts was used to draft alternatives to be carried into NEPA analysis. In order to provide the public with sufficient time to thoroughly review the alternatives, the Forest provided for a pre-scoping period prior to announcing the formal 30-day comment period. In addition, the Forest provided a 29-day courtesy review period prior to issuing a final environmental assessment and decisions. As predicted, consensus on how motorized use should be managed on the Forest could not be achieved and ultimately the District Rangers issued decisions that they felt best provided necessary resource protection while providing for motorized recreation use.

The Forest has seen very few appeals of project decisions. For projects typically seen as "white hat" projects there has been little if any disagreement with the proposed action. However, projects viewed as commodity (i.e. range or timber) or "user group" based (i.e. motorized recreation) tend to be more contentious. For these types of projects, it can be difficult, if not impossible, to garner consensus amongst interested parties.

Recommend "Need for Change" in Forest Plan Direction?
Generally the Forest does a good job of scoping its projects and is meeting Plan objective SEOB02. As described above, some projects completed under categorical exclusion were left off the SOPA. Recent changes to how projects get listed on the Sawtooth Forest web page as well as

changes to procedures for entering projects into the SOPA will prevent this from happening in the future.

Forest Plan Element No: 2

Activity, Practice, or Effect to Be Measured: Perception of management activities on the Forest

Monitoring Question: Are consulting agencies part of the process, and are concerns being raised about implementation of the Forest Plan?

Indicator: Level 1 meeting notes; level of NEPA or NFMA involvement

Methodology: Forest Level 1 Operating Guide, update to Forest Operations Map, Counterpart Regs reporting, Level 1 meeting notes, State 303(d) permitting reviews

Monitoring Results/Discussion:
To comply with the August 29, 1995 direction for streamlining Endangered Species Act, Section 7 consultation with the U.S. Fish & Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS), the Sawtooth NF, in conjunction with FWS and NMFS, developed operating guidelines for a Level 1 Streamlining Consultation Team. The Team, made up of biologists from the Sawtooth NF, Idaho Department of Fish and Game, FWS, and NMFS, meets monthly to discuss project effects and impacts on the biological and ecological needs of aquatic and terrestrial species. The objective of these meetings is to facilitate streamlined consultation, review Biological Assessment (BA) determinations, and review projects still in the planning phase.

All proposed projects with the potential to affect TES species or their habitat and projects with "no effect" BAs where the certainty of the no effect determination is in question must be presented to the Level 1 Team for review. Per the Level 1 operating guidelines, the Forest project biologists make ESA determinations on the projects. The Team reviews the project, and may make recommendations for project adjustments to avoid direct or indirect impacts to ESA listed and proposed species. BAs are not signed or considered as final until the Level 1Team has reached consensus on the effects and determination of the project. Once Level 1 recommendations, if any, have been incorporated into the project, the BA is signed and is submitted to the appropriate oversight agency for ESA consultation. For "no effect" BAs, if the Level 1 Team agrees with the no effect determination then no further consultation is required.

In addition to listed species, all candidate and proposed species as well as species that have a signed Conservation Agreement (CA) are discussed in conjunction with BAs prepared for listed species. If the Team reaches consensus that a proposed action will have adverse effects on proposed or candidate species or those species with a CA, the Team will notify the Forest and make recommendations that remove the adverse effect.

If Level 1 Team members cannot come to agreement on the effects of the proposed project, on PACFISH/INFISH compliance, Lynx Conservation Assessment and Strategy compliance, or on the level of information needed, the project will be elevated to the each agency's Level 2 representative.

Since implementation of the revised Forest Plan in 2003, over 125 projects have been presented to the Level1 Team. To date, no projects have required elevation to Level 2.

Recommend "Need for Change" in Forest Plan Direction?
As evidenced by the success of the Level 1 process, consulting agencies are actively involved in management activities on the Forest. Given this success, there is no need to change Forest Plan direction.

Forest Plan Element No: 7

Activity, Practice, or Effect to Be Measured: Accessibility improvement efforts in developed recreation and administrative use facilities

Representative Forest Plan Management Direction:

- REOB13 - Continue to improve accessibility on the Forest in compliance with all federal laws and agency guidelines.

Monitoring Question: Is disabled access improving in relation to federal laws and agency guidelines?

Indicator: Accessibility status of Forest administrative facilities. Percentage of accessible developed recreation sites.

Methodology: INFRA data based on annual site condition surveys of up to 20 percent of the Forest's administrative and developed recreation facilities

Monitoring Results/Discussion:
During the five year monitoring period and up to now, the Forest has had an aggressive program of increasing accessibility of its high development scale recreation sites. This work has been accomplished with both R4 Capital Improvement Program (CIP) funds and national Recreation Site Improvement (RSI) funding. All the projects listed below were accomplished between 2004 and 2009. Projects include accessible toilets, fire rings, tables and parking.

Minidoka Ranger District: Porcupine Campground.
Ketchum Ranger District: Boundary Campground.
Fairfield Ranger District: Abbott, Chaparral, and Bear Creek Campgrounds.
Sawtooth National Recreation Area: Alturas Inlet, North Shore, Smokey Bear, Mormon Bend, Point, Sockeye and Sunny Gulch campgrounds, North Shore Picnic Area, and Alturas Beach.

Recommend "Need for Change" in Forest Plan Direction?
In accordance with REOB13, the Forest is to improve disabled access to its facilities. The Forest has made good progress towards this objective since the revised Forest Plan went into effect. The most limiting factor in making further progress is lack of funding. Given this, there is no need for change in Forest Plan Direction relative to accessibility improvements.

Forest Plan Element No: 08

Activity, Practice, or Effect to Be Measured: Safety of administrative facilities

Representative Forest Plan Objective(s)

- FROB07 - Ensure that potable water provided at any public or administrative facility is safe to protect the health and safety of the public and Forest personnel as required by law.

Monitoring Question: Are administrative sites safe and accessible for visitors and employees including drinking water sources?

Indicator: On-site inspection of facilities and drinking water testing

Methodology: Review of results of condition surveys, water testing results and SHIPS

Monitoring Results/Discussion (use separate page(s) if necessary): Condition surveys are required every five years on all buildings and the purpose of these condition surveys is to look at large deferred maintenance items needs. At times accessibility items and safety items are noted in these surveys but the purpose is not safety or accessibility inspection related. Bacteriological sampling is performed on drinking water systems during each month of water system operation.

The answer to the safety of administrative sites question may be derived from our annual accident reports and seeing how many accidents annually are related to our facilities. The answer to the drinking water question may be answered by how many confirmed positive bacteriological samples on the Forest occur each year.

The safety data shows that the number of facility related accidents on a yearly basis as follows:

2003 & 2004 - 0
2005 – 3 facility related accidents (fall off chair, fall on stairs, slip on ice).
2006 – 0
2007 – 2 facility related accidents (fall on stairs, slip on ice)
2008 – 2 facility related accidents (bending, reaching overhead)
2009 – 1 facility related accident (fall on roof)

The Forest has been using the Safety and Health Integrated Portal System (SHIPS) since 2005. In 2003 and 2004 there may have been a lower level of accident reporting in the old system. In general the accidents may be grouped in to the three categories of falling, slipping on ice, and bending and reaching accidents. Based on this information the Forest had a spine expert give a presentation of proper spine care at the Forest All Employees Day in 2009 and a stair redesign to improve the safety of one of the stairs where an accident occurred has been completed.

The Forest has a total of nine administrative site water systems. The water sampling data shows the number of administrative facility water systems with confirmed total coliform positive test results or a positive total coliform test result not followed up by appropriate repeat sampling as follows:

2003 – 1
2004 – 1
2005 – 0
2006 – 2
2007 – 1
2008 – 3

Follow-up actions taken due to a positive coliform test result were substantially performed in accordance with FSM 7400 – Public Health and Pollution Control Facilities, Chapter 7420 – Drinking Water**.** These actions may include system closure, boil order notice, system disinfection, and special bacteriological sampling.

The Forest has taken the following course of actions on the systems that are included in the numbers above:

Shake Creek Guard Station – System reconstructed in 2005.
Big Smoky Guard Station – System reconstructed in 2005.
Porcupine Springs Water System – System reconstructed in 2005.

As our water systems age we will continue to have positive bacteriological sample test results which will necessitate funding for system replacement.

Some special projects (e.g. bridge replacements)

- Stanley Deferred Maintenance Projects (Roofing, Windows, Siding, Concrete) -2008
- Fairfield Bunkhouse Construction – 2007
- Shake Creek GS and Big Smoky GS Water System Improvements – 2005
- Upper Rock Creek Water System Construction - 2005
- Stanley Water System Float Control Project - 2004

Recommend "Need for Change" in Forest Plan Direction?
In accordance with Forest Plan Objective FROB07, the Forest manages its water systems to ensure that potable water provided at any public or administrative facility is safe. For those systems where water sampling data found a positive coliform result, the Forest substantially followed the procedures outlined in FSM 7400 – Public Health and Pollution Control Facilities, Chapter 7420 –Drinking Water**.** These procedures require that water samples be taken every 30 days at public and administrative facilities. On average, the Forest collects water samples every 30 days on approximately 95% of its water system. The State requirement is that samples be taken quarterly. The Forest exceeds this requirement. Based on these findings, there was no need for change in Forest Plan management direction identified.

Chapter IV of the Forest Plan includes the monitoring elements to be reported through the publication of monitoring reports. As described above, the activity to be measured for in monitoring element 8 is the "Safety of administrative facilities" and then the monitoring question is:

"Are administrative sites safe and accessible for visitors and employees including drinking water sources?"

Accessibility and safety are not really related as a building could be safe and not accessible. Accessibility is monitored in element 7 "Accessibility improvement efforts in developed recreation and administrative use facilities." The monitoring question for element 8 should be changed to better address the activity, practice or affect to be measured. It is recommended that the question be changed as follows:

"Are administrative sites, including drinking water sources, safe for visitors and employees?"

Forest Plan Element No: 09

Activity, Practice, or Effect to Be Measured: Safety of developed recreation sites

Representative Forest Plan Management Direction:

- FRGO02 - Provide and maintain safe and efficient Forest facilities.
- FROB07 - Ensure that potable water provided at any public or administrative facility is safe to protect the health and safety of the public and Forest personnel as required by law.

Monitoring Question: Are developed recreation sites free of high-risk conditions? Do water systems meet Federal, State, and local requirements?

Indicator: On-site inspection of facilities and drinking water testing

Methodology: I-Web Year End Recreation Sites Minor Constructed Feature Status Report

Monitoring Results/Discussion:
See the response to Forest Plan Element No. 08

The monitoring results/discussion for element 9 will focus on safety of developed recreation sites. Drinking water systems are addressed in the response to Monitoring Element number 8 and will not be addressed in this element.

The Sawtooth National Forest has approximately 175 recreation sites. The I-web report indicates that 98% of our recreation sites were inspected via a condition survey over the 5-year monitoring period. The information from the condition surveys indicate that the deferred maintenance levels for minor constructed features during the monitoring period remained stable indicating that health and safety deficiencies are most likely stable as well. As "high risk" conditions occur such as the Easley/Boulder View Campground flood and the Redfish Lake tree blow down, campgrounds are closed to the public. The following is a list of some of the projects completed during the first 5 years of plan implementation to address safety of developed recreation facilities:

Point Campground Reconstruction – 2008
Mormon Bend Campground Reconstruction – 2007
Kelley Creek Dispersed Camping - 2007
Casino Creek Campground Reconstruction - 2006
Porcupine Springs Family Unit Campground Construction – 2005
Redfish Lake Visitor Center Remodel – 2005
Sunny Gulch Campground Construction and Reconstruction - 2004

Recommend "Need for Change" in Forest Plan Direction?
In accordance with Forest Plan FRGO02, the Forest is to provide and maintain safe and efficient Forest facilities. Condition surveys conducted on recreation sites indicate that deferred maintenance at our developed recreation sites is remaining stable. The elimination of these deficiencies is more directly related to funding levels than Forest Plan direction. Based on these findings, there was no need for change in Forest Plan management direction identified.

Forest Plan Element No: 10

Activity, Practice, or Effect to Be Measured: Condition, level of use, and maintenance of roads

Representative Forest Plan Management Direction:
- FRGO01 - Provide and maintain a safe, efficient Forest transportation system that meets resource management and access needs, while mitigating degrading resource effects.
- FROB03 - Identify safety hazards on Forest classified roads, establish improvement priorities, correct or mitigate the hazard.
- FRST04 - Roads shall be constructed to a standard appropriate to their intended use, considering safety and concerns for resource degradation**.**
- FRGU07 - Annually prioritize roads to receive maintenance, repairs, or improvements to protect the investment, maintain the intended serviceability, and protect other resources. Road maintenance activities should be prioritized using factors such as user safety, resource protection needs, administrative needs, user comfort, the identified traffic service level, and available funding.

Monitoring Question: Are road conditions improving related to safety or user comfort?

Indicator: Miles maintained by maintenance class, and condition surveys

Methodology: Annual Maintenance Reports

Monitoring Results/Discussion:
The Sawtooth National Forest has approximately 1900 miles of road of which, on average, 582 miles are maintained annually. In accordance with FRGU07, the Forest does prioritize maintenance of system roads annually. This is documented through Annual Maintenance Plans. Project level analyses, Roads Analysis Process, travel planning, condition surveys, identified safety hazards etc. are all considered when determining maintenance priorities. Identified safety hazards on classified roads are identified as a high priority for maintenance or reconstruction

consideration. The following table lists the miles of road maintained or improved each year from 2004 through 2008:

2008	563.7 miles
2007	493.2 miles
2006	615.5 miles
2005	716.8 miles
2004	522.3 miles

Road funding for the Forest has been fairly steady from year to year with the average allocation being around $800,000. The budget has been adequate for routine yearly maintenance of native- and gravel surfaced passenger car roads for road grading, some spot surfacing, and some dust abatement activities. Current funding doesn't allow for routine maintenance of high-clearance vehicle roads, adequate maintenance of paved roads, or allow bridge replacement on a systematic basis. The result of current funding levels is the slow deterioration of the road system. In some cases, pavements will deteriorate to the point that reconstruction or routine maintenance will not be possible. Some roads may need to be reduced to lower maintenance levels. The Forest Service does have cooperative road maintenance agreements with various counties and local road agencies. Under these agreements, the USFS can do maintenance on cooperating agencies' roads and the cooperating agencies may perform maintenance on the USFS road system. These trades allow the agencies to more efficiently complete their work.

The majority of the new road construction during the monitoring period was initiated due to campground construction. Sunny Gulch Campground (0.6 miles), Porcupine Springs Campground (0.4 miles), and Casino Creek Campground (0.3 miles) were constructed to current standards as required by FRST04.

As provided in FROB03, safety items are continually addressed during annual road maintenance and larger items are addressed as funding can be obtained. In 2004 major renovation work was performed to the bridge that accesses Baumgartner Campground on the Fairfield Ranger District. During the 5 year monitoring period planning was initiated for the replacement of the Robinson Bar Bridge due to structural deficiencies. In the future as funding can be obtained larger safety items will continue to be addressed.

Recommend "Need for Change" in Forest Plan Direction?

The ability of the Forest to meet or move towards achievement of Forest Plan goal FRGO01 is highly dependent on the level of road maintenance the Forest can achieve. The ability to improve road maintenance to a point where all roads receive adequate maintenance is a function of funding rather than Forest Plan direction. The Forest has been successful in garnering special project funding above the annual base level funding for some road projects. Following are some of the special projects completed during the first 5 years of plan implementation:

Stanley Lake Road Surface Treatment – 2007
Railroad Ridge Water Bar Construction - 2006
Soldier Creek Bridge Replacement – 2005
South Fork Boise River Bridge Repair (Baumgartner Bridge) - 2004

While the Forest has not made as much progress as we would like, Forest Plan direction relative to road maintenance appears to be appropriate to achieve desired conditions should sufficient funding become available.

Chapter IV of the Forest Plan includes the monitoring elements to be reported through the publication of monitoring reports. As described above, one of the indicators used to measure whether or not Forest Plan direction is being met is condition surveys. Condition surveys are only required to be completed on a small, random sample of roads and thus do not answer the question of whether road conditions are improving or not. Therefore we recommend that this indicator be removed and be replaced with National Visitor Use Monitoring Results as the results indicate user comfort of Forest roads In 2005, 70.8% of respondents were very satisfied or somewhat satisfied with the road condition, while 5.8% were very dissatisfied or somewhat dissatisfied with the road condition.

Forest Plan Element No: 11

Activity, Practice, or Effect to Be Measured: Recreation demand

Representative Forest Plan Management Direction:

- REOB10 - Monitor recreation resource conditions, visitor use levels, types of uses, and visitor expectations to guide recreation management actions.
- REOB11 - Collaborate with other government agencies, recreation partners, volunteer organizations, and the recreation and tourism industry in recreation planning and delivery efforts to:
    a) Provide support to local economies,
    b) Promote management efficiency, and
    c) Improve recreation opportunities and experiences available to the public.

Monitoring Question: Are the amount and types of recreation opportunities provided meeting customer needs and expectations?

Indicator: National recreation use monitoring survey results; comment forms and user correspondence

Methodology: Natural Recreation Use Monitoring Survey results; annually during Forest recreation meetings for other sources

Monitoring Results/Discussion:
See the response to monitoring element 12 below.

Recommend "Need for Change" in Forest Plan Direction?
Monitoring elements 11 and 12 in effect, are monitoring the same thing and therefore are redundant. That being said, Element 12 is more specific and therefore portrays a more accurate evaluation of recreation program management across the Forest. It is therefore recommended that Element 11 be dropped.

Forest Plan Element No: 12

Activity, Practice, or Effect to Be Measured: Recreation Use Trends, Distribution and Levels

Representative Forest Plan Management Direction:

- REOB02 - Utilize the Recreation Opportunity Spectrum (ROS) to evaluate and tailor proposed projects and activities in order to maintain desired recreation opportunities and the quality of recreation experiences
- REOB10 - Monitor recreation resource conditions, visitor use levels, types of uses, and visitor expectations to guide recreation management actions.
- REOB11 - Collaborate with other government agencies, recreation partners, volunteer organizations, and the recreation and tourism industry in recreation planning and delivery efforts to:
    - Provide support to local economies,
    - Promote management efficiency, and
    - Improve recreation opportunities and experiences available to the public.
- REOB17 - Initiate a process of phased, site-specific travel management planning as soon as practicable. Prioritize planning based on areas where the most significant user conflicts and resource concerns are occurring. Identify and address inconsistent access management of roads, trails, and areas across Forest, Ranger District, and interagency boundaries.
- REOB22 - Provide networks of marked and designated snow machine, cross-country ski, and other winter travel routes and trailhead facilities, while meeting other resource goals and objectives.

Monitoring Question: Are recreation activity levels changing, and are shifts occurring between types of activities, and locations of recreation use?

Indicator: Field observations by recreation staff, comments, letters, available State and industry data sources, and National Recreation Use Survey results

Methodology: National Recreation Use Monitoring survey results; annually during Forest recreation meetings for other sources. Review and interpretation of State and industry data every two years.

Monitoring Results/Discussion:

In 2005 and again in 2010, the Forest completed National Visitor Use Monitoring (NVUM) surveys across the entire Forest. The NVUM protocol provides statistically valid estimates of the volume and characteristics of recreation visitation to the National Forest System, as well as the benefits recreation brings to the American public. Completed in 5-year cycles, the NVUM helps the Forest Service to manage its recreation resources in such a way that best meets the needs of visitors while maintaining the quality of the natural resource base. Results of the 2005 NVUM are summarized below. The 2010 NVUM surveys will be completed on September 30, 2010, and the results will not be available until 2011 at the earliest.

In 2005, there were approximately 1,188,600 recreation visits to the SNF according to the National Visitor Use Monitoring (NVUM) report published in 2006 (USDA 2006a). Based on the NVUM survey results, the most popular activities pursued on the SNF include the following:

viewing natural features (48.9% of all visitors participated in this activity); hiking/walking (38.9%); viewing wildlife (36.7%); downhill skiing (36.7%); and relaxing (33%). Other activities of interest that were considered for in the analysis included the following: driving for pleasure (21%); OHV use (2.8%) motorized trail activity (3.4%); hunting (6.3%); fishing (10.9%); backpacking (2%); horseback riding (1.6%); bicycling (6.3%), and other non-motorized (5.2%).

Overall, the 2005 NVUM found that visitor satisfaction on the Forest was very high, with less than 5% of survey participants expressing less than satisfactory opinions with the type and/or condition of services provided by the Forest. Based on results of the 2005 NVUM, it does not appear that there has been a significant change in conditions or demands of the public relative to the Forest's recreation program. However, the Forest will need to review the results of the 2010 NVUM data once it is received to determine if any changes have occurred since the 2005 NVUM that would warrant a change in program direction.

During the economic downturn there is anecdotal evidence by our recreation managers that use of developed recreation sites on the Sawtooth NRA has been slightly down. This is evidenced primarily by more availablity of campsites for people arriving without reservaions. This change has not been significant and developed sites continue to be utilized at or beyond capacity during peak use periods. On the Minidoka RD, in the Rock Creek corridor , developed recreation use appears to be going up. This would be consistent with National trends that show people are recreating closer to home than in the past.

Recommend "Need for Change" in Forest Plan Direction?
Given the results of the 2005 NVUM survey as well as Forest recreation manager observances, there is no indicated need for change in Forest Plan direction to deal with recreation demand at this time. No major shifts in numbers or types of use have been observed by field managers. When results from the 2010 NVUM survey are available trends and changes in demand may become apparent.

Forest Plan Element No: 13

Activity, Practice, or Effect to Be Measured: Recreation Use Conflicts

Representative Forest Plan Management Direction:

- REOB11 - Collaborate with other government agencies, recreation partners, volunteer organizations, and the recreation and tourism industry in recreation planning and delivery efforts to:
  a) Provide support to local economies,
  b) Promote management efficiency, and
  c) Improve recreation opportunities and experiences available to the public.
- REOB17 - Initiate a process of phased, site-specific travel management planning as soon as practicable. Prioritize planning based on areas where the most significant user conflicts and resource concerns are occurring. Identify and address inconsistent access management of roads, trails, and areas across Forest, Ranger District, and interagency boundaries.

- REOB18 - Manage cross-country travel to mitigate recreationist and big game conflicts on winter/spring ranges.

Monitoring Question: Are conflicts rising between recreational uses? Are conflicts being resolved?

Indicator: Comments or complaints from users. Development of plans or other mechanisms (e.g, user group forums) to resolve conflicts.

Methodology: Review of comments, complaints, and outcomes of any resolution efforts during Forest recreation meetings.

Monitoring Results/Discussion:
There have not been any significant conflicts between recreation user groups during the monitoring period. The Forest has received occasional complaints from people who do not think an area that is open to motorized or mechanical use should be and from others who think an area that is not available for those types of use should be. These are primarily on philosophical grounds, not really conflicts between uses. The Forest has received a request from a private individual wanting to land his personal helicopter on the Forest to facilitate private heli-skiing. This request has been denied as the area that he wants to utilize has been closed to helicopter landings for many years. There has been some concern expressed by single-track motorized users about ATV damage on single-track trails. The Forest has begun to address this issue through designation of more ATV routes during Travel Planning. There continues to be some friction between different modes of trail users; equestrians are often startled by motorized, and especially, mountain bike riders. Some hikers don't like walking behind horses. We continue to develop plans for new trails to spread out use and give users more options.

Many of the user conflicts of the past had to do with cross-country motorized use and conflicts with hunting, etc. The Travel planning effort that ended in 2008 required a large amount of work with motorized recreation clubs and two state agencies: Idaho Parks and Recreation and Idaho Fish and Game. The winter travel planning effort that is ongoing on the Fairfield Ranger District includes Interdisciplinary Team Member (IDT) representatives from Idaho Parks and Recreation and Fish and Game. These members were appointed to the IDT by Governor Otter. Sawtooth Vision 20/20, a citizens group formed to chart future plans for the Sawtooth NRA has taken on recreation and travel planning as one of its key objectives. They have formed a group consisting of State and County representatives and representatives from the motorized and non-motorized recreation communities to develop a recreation plan for the Pole Creek drainage on the NRA.

The Winter Recreation Coalition, formed in 2000 to recommend strategies for managing winter recreation in the Wood River Valley, continues to exist, but has not been active since its recommendations were adopted by the Forest Service.

Forest Travel Plan (2008), eliminated cross-country motorized travel and identified the permanent motorized road and trail system. This system is identified in Motorized Vehicle Use Maps (MVUM) for each of the districts and the Sawtooth NRA. MVUM's are available to the public free of charge, and are updated each year as new decisions are made and projects are implemented. The MVUM also identifies areas adjacent to motorizedroads and trails where

dispersed motorized camping is authorized. This use is restricted to within 300' of designated routes as shown on the MVUM. Travel planning also resulted in a prohibition of motorized travel off designated routes for game retrieval.

Recommend "Need for Change" in Forest Plan Direction?
There is no need to change Forest Plan direction. Conflicts are being resolved successfully by involving the affected recreation communities.

Forest Plan Element No: 14

Activity, Practice, or Effect to Be Measured: Dispersed recreation use and distribution

Representative Forest Plan Management Direction:

- REOB01 - During fine-scale analyses in areas where recreation facilities are identified as a potential concern or problem contributing to degradation of water quality, aquatic species or occupied sensitive or Watch plant habitat, evaluate and document the location of the facilities causing degradation and prioritize opportunities to mitigate effects.
- REOB06 - Continue efforts to inventory, survey, and map dispersed recreation sites to provide resource data for dispersed site management.
- REOB17 - Initiate a process of phased, site-specific travel management planning as soon as practicable. Prioritize planning based on areas where the most significant user conflicts and resource concerns are occurring. Identify and address inconsistent access management of roads, trails, and areas across Forest, Ranger District, and interagency boundaries.

Monitoring Question: Is the level of use occurring in dispersed sites having impacts to other resource values? If so, what actions were taken and were they effective?

Indicator: Reports, complaints, and other information from the public, recreation and other resource specialists.

Methodology: Review of comments and necessary on-the-ground mitigations planned or implemented.

Monitoring Results/Discussion:
The Forest has been aggressive in identifying and correcting impacts to aquatic, soil and vegetation resources, resulting from unmanaged dispersed recreation, during the 5 year monitoring period. The primary method for dealing with the impacts of dispersed recreation have been through Forest travel planning, which was implemented beginning in 2008, and through individual, drainage level, projects that eliminated user-created routes and implemented designated-dispersed camping sites in targeted areas. Each of the subunits has implemented projects designed to minimize and correct damage caused by indiscriminate dispersed camping.

Forest Travel Plan (2008) – Eliminated cross-country motorized travel and identified the permanent motorized road and trail system. This system is identified in Motorized Vehicle Use Maps (MVUM) for each of the districts and the Sawtooth NRA. MVUM's are available to the public free of charge, and are updated each year as new decisions are made and projects are

implemented. The MVUM also identifies areas adjacent to motorizedroads and trails where dispersed motorized camping is authorized. This use is restricted to within 300' of designated routes as shown on the MVUM.

Minidoka RD Designated dispersed camping projects – The District had identified significant streamside degradation along Rock Creek and Magpie Basin on its Cassia Division. These are heavily used summer recreation areas, very popular with local recreationists. Nonsystem routes were barricaded and blocked and a large number of designated dispersed campsites were improved to allow for continued high levels of use while protecting aquatic and riparian resources, along about five miles of streamside. This was accomplished in 2007/8. In the FS flats area of the Cassia division, a system road was removed from the middle of an important meadow system, and a large number of designated dispersed camping sites and group sites were improved. This work was designed to accommodate use in this heavily used area while protecting fragile meadow vegetation and to cut down on airborne dust that was being transported into nearby streams. This was accomplished in 2010 and will continue to be revined in 2011 and 2012. Dispersed motorized camping was also eliminated from the upper Goose Creek area in 2008, by removing several system and non-system roads. The Howell Canyon area in the Albion Division, the area around the Sublett Campground and Clear Creek on the Raft River Division have also been moved into designated dispersed management strategies.

Ketchum Ranger District Designated dispersed camping projects – The District has identified several areas of streamside degradation over the monitoring period. For example, in a popular dispersed camping area along Warm Springs creek, west of Ketchum, nonsystem routes were barricaded and a large number of designated dispersed campsites were improved to accommodate use while protecting aquatic and riparian resources. This project protects and restores about six miles of Warm Srings Creek. The Baker Creek drainage received similar treatment in the early 2000's. The heavily used Cove Creek road east of Hailey was relocated from its original route along the creek to high on the bench above the creek. This project also reduced and restored impacts from dispersed recreation.

Fairfield Ranger District Designated dispersed recreation projects - Kelley Flats Dispersed camping project was initiated in 2004 in response to degrading resource conditions. The resource impacts included: proliferation of user developed routes and race tracks used by motorized vehicles; soil degradation caused by excessive fire pits and compaction; soil compaction and vegetation loss on the shoreline; and garbage and sanitation issues. The project included route designation, decommissioning and re-vegetation of user developed routes, installation of fire rings at designated dispersed sites, improvements to roads into the dispersed areas, trailhead, learner trails for motorized vehicles and restrooms

Sawtooth National Recreation Area dispersed recreation projects – In 2006 the NRA implemented a route designation project in the area between Alturas/Perkins Lakes and Vat Creek. Impacts included proliferation of user developed routes and tracks used by motorized vehicles, soil degradation and vegetation loss. The project included designation of some user developed routes and decommissioning and re-vegetation of other user developed routes. A similar project is now being planned for the Pole Creek drainage, and a designated dispersed project is being planned in Stanley Lake area.

Recommend "Need for Change" in Forest Plan Direction?
In relation to management objectives REOB01, 06 and 17, the Forest is making good progress on identifying where dispersed recreation use is occurring, where it is causing resource degradation and addressing that degradation through site designation, restoration projects and closures. Given that impacts are from dispersed recreation are being identified, monitored and conditions restored in a systematic and ongoing way across the entire Forest, it is determined that there is no need to change Forest Plan direction.

Forest Plan Element No: 15

Activity, Practice, or Effect to Be Measured: Recreation Opportunity Spectrum (ROS) Inventory

Representative Forest Plan Management Direction:

- REOB02 - Utilize the Recreation Opportunity Spectrum (ROS) to evaluate and tailor proposed projects and activities in order to maintain desired recreation opportunities and the quality of recreation experiences
- REOB03 - Update existing ROS inventories as part of project-level planning and implementation if project activities cause a change in recreation setting conditions significant enough to reclassify the affected area.
- REOB04 - Maintain the necessary data to determine the individual and/or cumulative changes in ROS classes relative to the management area ROS strategy.

Monitoring Question: Are management activities changing the ROS settings?

Indicator: Review of project implementation and updating the ROS inventory to reflect any changes in ROS class acres

Methodology: Review of projects at RD and SO levels to determine changes in ROS class acres at Mgmt Area level

Monitoring Results/Discussion:
ROS is displayed in the Forest Plan as the percentage of each MA that is within each ROS Class. These percentages are displayed for both winter and summer. The objective is to achieve or maintain those proportions.

As projects are planned, ROS class criteria are used to identify compatible levels and densities of facility development. For example: Areas managed for Semi-Primitive ROS classes typically have more rustic facilities and lower site densities than do Areas managed for Roaded Natural (RN) or Rural (R) classes. The biggest influence on ROS classes is the presence and development scale of roads. Areas managed to achieve Primitive (P) ROS class settings are typically 3 miles or more from Level 3, 4 or 5 roads. Semi- Primitive areas are typically between ½ mile and three miles from these types of roads. There have been no meaningful changes in ROS classes on the Forest during the 5-year monitoring period, because no new Level 3, 4 or 5 roads have been constructed on the Forest, with the exception of the Cove Creek Road on the

Ketchum Ranger District. The Cove Creek road was actually a relocation of an existing road outside of a riparian area, and did not result in any change in the ROS mix in that MA (MA 04 – Big Wood River).

Project planning during the first months of the revised Forest Plan identified a number of mapping problems with the summer ROS inventory that the Forest Plan is based on. These problems primarily have to do with discrepancies between what exists on the ground and what was described in the Forest FEIS as existing conditions. In early 2004 the Intermountain Region's Recreation Planner conducted a review of the situation. Her conclusions were that most of the Roaded Modified (RM) areas do not fit the definition for RM. Most of the mapped RM areas fit into Semi-Primitive Motorized (SPM) and, less often, in RN classes; some of the areas mapped as RN are R, particularly along the scenic byways, where ranches and agricultural lands are present; the entire Wilderness Area is mapped as P essentially following the Wilderness boundary. Due to the proximity of adjacent roads and infrastructure, the levels of use, and other influences to the settings, some of the areas close to the boundary should be mapped as Semi-Primitive Non-motorized (SPNM).

The ROS inventory maps in the Forest Plan appear to be strictly a GIS generated product with little adjustment or refinement to reflect on the ground conditions. Topography, development levels, management rigor, and other defining attributes necessary in accurately mapping existing ROS classes were not applied to develop the final inventory map. These definitions and attributes are found in the *ROS User Guide, 1982 handbook,* and the *ROS Primer and Field Guide, 1990 USDA, R60REC-021-90*. In addition, more recent mapping standards are contained in the *National Technical Guide for Integrating RHWR programs in Forest Plan Revisions, December, 2003 Draft*.

When the Fairfield Ranger District began winter travel planning in 2008, they discovered that a large part of their district had been mischaracterized and mismapped in regards to its winter ROS existing condition: 9,990 acres of MA 8 (middle South Fork Boise River), 8,880 acres of MA 7 (Little Smoky Creek) and 2,798 acres of MA 6 (Upper South Fork) had been classed as SPNM, when they should have been classed as SPM. This was apparently done by assuming that the winter wildlife motorized closure in this area precluded all winter motorized recreation from occurring. This however is not the case. The closure area is in fact heavily used by motorized recreationists who have the right to use snow machines to access their property within and past the closure area. Recreationists expecting to enjoy this area free from the sight and sounds of motorized use would be sorely disappointed if they visited the area. This mistake will be corrected in the decision to be made by the Fairfield District Ranger in 2012.

Recommend "Need for Change" in Forest Plan Direction?

The ROS maps compiled and utilized for the SW Idaho Plan revision effort were completed prior to the development of a National ROS Inventory Mapping Protocol. It is therefore recommended that the ROS base maps be revised to incorporate the protocol. This was preliminarily done in November of 2004, but needs to be field truthed as follows:

1. Verify/revise RO mapping effort with district personnel.
2. Determine need to change, as well as any management implications of those changes.

3. If changes warrant a change to the current Forest Plan Adopted ROS class designations, complete a Forest Plan amendment

Until a complete review of the ROS maps can be completed, project level analysis should include a review of the current ROS map against the newer National ROS Inventory Mapping Protocol. If discrepancies are noted, the project decision should include a non-significant amendment to the Forest Plan to correct the ROS map for the project area.

Forest Plan Element No: 16

Activity, Practice, or Effect to Be Measured: Level of trail maintenance relative to trail use

Monitoring Question: Do trail maintenance priorities reflect trail use levels, health and safety issues, and resource impact mitigation needs?

Indicator: Miles of high priority trail maintained. Field observations of use and resource impacts from recreation staff, volunteers, and public comments.

Methodology: Review of completed trail maintenance accomplishments, trail use and resource impacts from observations and comments from recreation staff, resource specialists, volunteers, and trail users

Monitoring Results/Discussion:
The 2,285 miles of trails on the Forest are maintained per their planned maintenance cycles. Maintenance cycles vary according to level and type of use and the ROS objectives for the MA in which the trail lies. For example, high use trails within RN ROS classes will be scheduled for full maintenance each year, while a low use trail within a P ROS class may only receive maintenance every 4 – 5 years. Trail maintenance plans must remain flexible to allow crews to react to unplanned events such as wild fire (Castle Rock, South Barker, Trailhead), avalanche, or floods which may cause a need to increase maintenance for a period of years after the event.

Trails are maintained with Forest Service crews, contract crews, volunteers from motorized and non-motorized recreation groups, IDPR grants and crews, and costs share agreements across the Forest between IDPR, counties and Forest Service for County grooming programs. The Sawtooth Society, Magic Valley Trail Machine Club, and Big Wood Backcountry Trails have all been actively involved in volunteering time and funding trail maintenance and construction work.

The trails on the Forest include: Minidoka RD; 359.5 miles of summer trails and 87.5 miles of winter trails for a total of 447 miles of trail, Ketchum RD; 364 miles of summer trails and 33 miles of winter trails for a total of 397 miles of trail, Sawtooth NRA; 737 miles of summer trails, (250 miles are Wilderness trails) and 154 miles of winter trails for a total of 891 miles of trail, and Fairfield RD 510.5 miles of summer trail and 39.5 miles of winter trails for a total of 550 miles of trail.

Trail maintenance budgets have remained fairly steady over the monitoring period and through 2009. In 2010 we received a congressional earmark that more than doubled the funds available for trail maintenance on the Sawtooth NRA. In 2009 we also had additional funds for trail maintenance for after fire rehabilitation.

Miles maintained by year are: 2004, 2005 – between 450 and 500 miles, 2006 – 508 miles, 2007 – 460 miles, 2008 – 451 miles, 2009 – 708 miles, and 2010 -765 miles.

Recommend "Need for Change" in Forest Plan Direction?
There is no need for change in this element. The trail maintenance program on the Sawtooth is well managed and flexible to respond to changing conditions.

Forest Plan Element No: 17

Activity, Practice, or Effect to Be Measured: Potential impacts to visual resources

Representative Forest Plan Management Direction:
- SCGO01: Manage the Forest's resources to maintain the recreational and visual resource values, while meeting other resource needs.
- SCST01: All projects shall be designed to meet the adopted Visual Quality Objectives (VQOs) as displayed on the Forest VQO map.

Monitoring Question: Are Forest management actions being designed and implemented to meet Visual Quality Objectives (VQOs)?

Indicator: Monitoring project areas from sensitive or key viewpoints

Methodology: Review up to 10 percent of projects on-the-ground from identified viewpoints

Monitoring Results/Discussion:
Through the NEPA process, impacts to the scenic environment are being considered for projects that have the potential to affect scenic resources. The extent of analysis ranges from verbal consultation to determine the scope of the potential resource impact with a note to the file for projects with little to no impact to scenic resources, to a fully analyzed scenery resource report. The level of analysis is commensurate to the relative scope of the proposed project's impact on the scenic resource. Following is a list of recent projects with scenery resource reports:

- **Sawtooth National Recreation Area:**
  Galena Cell Tower (2009)
  Redfish Lake Lift Station (2010)
  Robinson Bar Bridge Replacement (2008)
  Smiley Creek Roll-Off Station (2010)
  Luther Heights Organization Camp Master Development Plan (2009)
  Sawtooth Valley Water Development (2009)

- **Ketchum Ranger District:**
  Upper Little Wood Fuels Reduction (2009)

Bald Mountain Master Development Plan (2007)

- **Fairfield Ranger District:**
  Upper South Fork Boise River Vegetation Project (2009)
  Little Water Gulch Gravel Pit (2008)

- **Minidoka Ranger District:**
  Howell Canyon Fuels Reduction (2008)

Recommend "Need for Change" in Forest Plan Direction?
Forest Plan direction concerning visuals/scenery is sound and there is no identifiable need for a change at this time. Scenery Standard SCST01, described above, applies a very measurable and defendable criteria against which, any scenery analysis within the Forest must be analyzed. Thus, any forest management project either meets or does not meet the applicable VQO. If, through a scenery analysis, a proposed project is found to meet or exceed the relevant adopted VQO(s), then that project is deemed compliant with Forest Plan scenery standards. If it is decided through a scenery analysis that a proposed project does not meet relevant adopted VQO(s), one of three things must happen, either: 1) Mitigations are applied to bring the project within compliance of the standard; 2) The project must be redefined to become compliant; or 3) A non-significant Forest Plan amendment is required to modify the VQO so that the project is brought into compliance.

This approach has served the Forest successfully since the 2003 Forest Plan was adopted. All indications are that the desired conditions with respect to the scenic environment as described in the Forest Plan are being achieved as a result. Impacts to the scenic environment are being adequately considered through the NEPA process. Modifications to projects are being made to comply with scenic standard SCST01, and projects that cannot meet SCST01 are not being approved. Through compliance with standard SCST01, the Forest is able to meet Forest Plan goal SCGO01 to maintain recreational and visual resource values, while meeting other resource needs.

Forest Plan Element No: 18

Activity, Practice, or Effect to Be Measured: Modification of established VQOs

Representative Forest Plan Management Direction:
- SCOB01: Implement the Scenery Management System either through the Continuous Assessment and Planning process or as part of the next Forest Plan revision. Use the Visual Management System until the Scenery Management System can be implemented.
- SCOB02: To facilitate the development of scenery management objectives, develop landscape character definitions, identify sense of place values, and inventory human-altered landscapes during landscape-scale assessments.

Monitoring Question: Are the VQOs appropriate given resource management needs?

Indicator: Number of Forest Plan amendments that modify established VQOs

Methodology: Review management areas where amendments for VQOs were completed

Monitoring Results/Discussion:
The Sawtooth Forest VQO map was reviewed during the revision of the 2003 Forest Plan. However, because the review was conducted at a broad programmatic scale, only broad scale changes in conditions were taken into consideration. It was anticipated that as projects and other opportunities arose, the VQOs would be refined at a site-specific level. Inherent in the application of the VMS is a project-level analysis/truthing of the adopted VQO for accuracy. Because Forest VQO mapping typically occurs at a forest-wide level of detail, a more site specific review is always included in a visual resource report to either prove or disprove the accuracy of the broader-level mapping. Provisions for this review are described in the Visual Management System (VMS) handbook on page 43 and the Sawtooth VMS handbook on page 31

Since adoption of the revised Forest Plan, five non-significant Forest Plan amendments to update adopted VQOs have been completed as a result of project-level reviews. The visual/scenery resource reports for the following projects identified a need for a non-significant Forest Plan amendment in order to update an adopted VQO:

- Bald Mountain Master Development Plan (2007)
- Robinson Bar Bridge Replacement (2008)
- Galena Cell Tower (2009)
- Luther Heights Org. Camp Master Development Plan (2009)
- Redfish Lift Station Replacement (immanent, 2010)

Recommend "Need for Change" in Forest Plan Direction?
The current VQOs for the Sawtooth National Forest were mapped and adopted in the early 1980's and reviewed at a programmatic scale during the 2003 Forest Plan revision process. The relatively recent high frequency of identified adopted VQO data deficiencies, apparent as a result of the number of recent non-significant Forest Plan amendment VQO 'updates', identifies a very real need to update/check the Forest VQO map for accuracy. An excellent process in which to accomplish this would be to realize the scenery objectives SCOB01 and 02. This would convert the Sawtooth Visual Management System (VMS) to the more modern and relevant Scenery Management System. A new VMS/SMS mapping effort incorporating the recurring issues that nearly all of the non-significant amendments have corrected would virtually eliminate this issue moving forward. Due to funding deficiencies, neither scenery objective (SCOB1 or SCOB02) has been accomplished to date. Because the failure to meet scenic objectives 01 and 02 are a reflection of budget deficiencies, there is no need identified need to change Forest Plan direction. In order to have the best chance at success, the switch from VMS to SMS should be a singular and well-defined effort completed by a source trained to do so. A scaled-back option toward completing this would be to begin this process on a single unit/district within the Forest. A logical choice would be to begin with the Sawtooth National Recreation Area where the enabling legislation (Public Law 92-400) is very compatible with the objectives of the Scenery Management System, especially concerning the cultural aspect of the scenic resource.

Forest Plan Element No: 20

Activity, Practice, or Effect to Be Measured: Stewardship of historic properties

Representative Forest Plan Management Direction:

- HPOB03 - Develop and implement quality standards (e.g., Meaningful Measures) to guide management and measure Heritage Program success in achieving stewardship and public service objectives.

Monitoring Question: Are historic properties being managed to standard?

Indicator: # of heritage priority assets with critical deferred maintenance

Methodology: Annual survey of up to 5 percent of the historic properties based on heritage assets using condition assessments

Monitoring Results/Discussion:
The above defined indicator and methodology are based on heritage priority assets and current condition assessments. By the end of the fiscal year 2009 there was only one heritage priority asset identified in INFRA. This asset was visited in 2004 and a condition assessment was completed with the recommendation that preservation should be completed. Currently the Sawtooth Interpretive and Historical Society are working on developing a preservation plan and finding the funding to complete the required stabilization work.

The Sawtooth National Forest is completing yearly inventories, evaluating cultural resources for eligibility to the National Register of Historic Places, and scoping interested parties concerning project that have the potential to impact historic properties. In addition, the Forest is working with the public and local interest groups on education and preservation work concerning cultural resources on Forest lands. During the reporting period the Sawtooth National Forest worked closely with several universities on research projects to further the professional archaeological knowledge of prehistoric land use in the region. The Forest has been working with the Idaho State Historic Preservation Office in the establishment of Memorandum of Agreements designed to mitigate identified adverse effects to historic properties. Two examples of these agreements are the Robinson Bar Bridge Removal and the Tunnel Hill & Big Creek Cattle and Horse Allotment National Environmental Policy Act Analysis.

Five key Forest Plan objectives have been identified as a priority for the Sawtooth National Forest Heritage Program over the next five years. These include a comprehensive cultural resource management plan and cultural resource overview. The Forest also plans to develop a predictive model and a heritage priority asset critical list. The Forest goal is to formally nominate at least one historic property found eligible to the National Register of Historic Preservation each fiscal year. Also, the curation agreement with Idaho State University will be revised and brought to current Department of Interior Standards. These elements are critical component that have been identified in the Forest Service Washington Office "Heritage Program Managed to Standard" directions.

Recommend "Need for Change" in Forest Plan Direction?
The indicator of heritage priority assets managed to standard is based on identified assets in INFRA. During this reporting period the Sawtooth National Forest had only one heritage priority asset reported in INFRA. By limiting this analysis to only priority assets with deferred maintenance, the Forest may be missing the bigger picture for stewardship of heritage resources. The one heritage priority asset in INFRA does not represent the existing condition for the Sawtooth National Forest. The hope is that in the future the Sawtooth National Forest INFRA records will be updated and this database will properly represent the current condition for heritage resources.

The Sawtooth National Forest should move to the "Heritage Program Managed to Standard" guidelines outlined by the Forest Service Washington Office in 2010 as the new monitoring elements. These elements will become the parameters that Congress will utilize on whether the Forest Service is meeting the intent of the National Historic Perseveration Act.

Forest Plan Element No: 22

Activity, Practice, or Effect to Be Measured: Vegetation treatments

Representative Forest Plan Management Direction:

- VEOB01 - During fine-scale analysis, identify and prioritize areas for regeneration of:
  a) Aspen in both climax stands and as a seral component of coniferous stands
  b) Native herbaceous understory in shrub communities
  c) Woody riparian species
  d) Western larch
  e) Whitebark pine.
- TROB01 - Provide timber harvest, and related reforestation and timber stand improvement activities, to contribute toward attainment of desired vegetation conditions. Annually, during the next 10 to 15 years:
  a) harvest timber, other than salvage, on an average of approx. 2,000 acres
  b) reforest an average of approx. 480 acres, and
  c) complete timber stand improvement activities on an average of aprox. 300 acres
- FMOB04 – Schedule and complete at least 40,000 acres of fuels management through prescribed fire and mechanical treatments in the next decade to achieve desired vegetation attributes and fuel reduction goals. Focus on wildland urban interface and areas in Fire Regimes 1, 2, and 3 (non-lethal, mixed1, mixed2) in Condition Class 2 and 3 (moderate to extreme hazard rating).
- FMOB05 – Continue to identify high fire hazards areas in wildland/urban interface areas. Develop and prioritize vegetation treatment plans in coordination with local and tribal governments, agencies, and landowners to reduce the risk of wildland fire.

Monitoring Question: Are planned treatments being implemented?

Indicator: Acres treated annually

Methodology: Review of NEPA decision documents

Monitoring Results/Discussion:
When the Forest Plan was signed in 2003, the Forest was in the midst of an extensive mountain pine beetle epidemic on the Sawtooth NRA. The pine beetle epidemic affected almost 180,000 acres within the Sawtooth NRA resulting in a high level of dead and down material in this highly visible unit of the Forest. To address concerns over the potential for uncharacteristic wildfire and associated risks to infrastructure and interface areas on the Sawtooth NRA, the Forest focused its vegetation management program on salvage harvest within the Sawtooth Valley. Therefore, most of our harvested acres in the first 5 years of plan implementation were salvage treatments. This is starting to change as the Forest begins to shift back to a predominantly green timber program. The Forest harvested timber on 743 acres over the five year period that were not salvage sales for an average of 149 acres per year. An additional 1,097 acres were treated through salvage harvest, with the majority of those treatments located on the Sawtooth NRA.

The Forest reforested 509 acres and performed timber stand improvement activities on 755 acres over the 5 year period. That is an average of 102 acres per year of reforestation and 151 acres per year of timber stand improvement activities.

In response to management objective VEOB01, the Forest completed aspen stand regeneration treatments on all Districts and the SNRA during the 5-year period. Aspen restoration efforts have occurred on 11,475 acres. A multi-year whitebark pine restoration project was implemented in 2007 on the Sawtooth National Recreation Area with upwards of 2,240 acres being scheduled for treatment with prescribed fire to create conditions favorable to whitebark pine regeneration and expansion. The Forest has also completed several conifer encroachment treatments within the Sawtooth NRA to restore wetland, meadow and sagebrush habitats.

FMOB04 and FMOB05 provide the Forest direction relative to the identification and treatment of hazardous fuels on the Forest. In response to these objectives, the Sawtooth National Forest treated 55,005 acres of hazardous fuels during the 5-year period. This includes 12,805 acres by prescribed fire; 6,402 acres by mechanical methods; and 35,798 by wildland fire use. This amounts to 7,185 acres treated annually by fire (including fire use) and 1,280 acres treated annually by mechanical methods.

The Wildland Urban Interface (WUI) has been established by individual county Community Wildfire Protection Plans (CWPP). The Forest has treated a large percentage of the WUI on the Forest. WUI treatments accounted for 8,845 acres or 1,769 acres annually. Most WUI treatments occurred on the Sawtooth National Recreation Area in response to the mountain pine beetle epidemic. Additional WUI areas treated included Howell Canyon and Upper Rock Creek Canyon on the Minidoka Ranger District and the Soldier Mountain area on Fairfield District.

The Forest is initiating treatments based on large scale landscape assessments on approximately 150 thousand acres. These areas emphasize restoration needs and contain few WUI areas.

Overall, treatments occurred on 16,262 acres (23%) in Condition Class 1 (mixed2); 27,364 (49%) acres in Condition Class 2 (mixed1) and 11,379 (21%) acres within Condition Class 3 (nonlethal).

Recommend "Need for Change" in Forest Plan Direction?
The Forest has not achieved the level of activity projected in TROB01. This can be attributed to two primary factors. First, as described above, the Forest appropriately focused its mechanical treatment/timber harvest efforts on salvage harvests to address the effects of the mountain pine beetle epidemic on the Sawtooth NRA.

Budget is the second leading contributor to the reduced level of accomplishment. The Forest's budget for timber is significantly lower than projected at the time the Forest Plan was completed. The Forest is producing acreages consistent with the budget it receives. If the Forest received a higher budget it could achieve higher acreage production.

The Forest is currently in the process of amending the Forest Plan to adopt a wildlife conservation strategy (WCS) for forested vegetation. This amendment will include a vegetation and restoration strategy and prioritization. Minor modifications to the acres of accomplishment in TROB01 will be made through the amendment to better reflect restoration priorities and more realistic budget allocations.

The Forest has met management objectives FMOB04 and FMOB05. As stated above, the WCS currently being completed by the Forest will include some minor changes to Forest Plan direction associated with the timber, vegetation and fuels management programs. No other changes in Forest Plan Direction were determined to be necessary based on the results of monitoring.

Forest Plan Element No: 23

Activity, Practice, or Effect to Be Measured: Effectiveness of vegetation treatments and effects resulting from natural disturbances such as unplanned wildfire

Representative Forest Plan Management Direction:

- VEOB06 - Determine high-priority areas for vegetation management actions that restore or maintain vegetation desired attributes.

Monitoring Question: Is live vegetation at, or moving towards, desired conditions as described in Appendix A of the Forest Plan?

Indicator: Existing quantity of forested PVG or non-forest cover type acres across the planning unit by size class and/or canopy closures and species type. Relative distribution and patch size of PVGs/cover type, or groups of PVGs/cover types, across the planning unit.

Methodology: Best available mid-scale vegetation data such as aerial photography, LANDSAT imagery, LANDFIRE datasets, FIA and other intensified field grid inventories, BAER severity/intensity maps, and FHP inventories and maps. Latest science concerning estimates of the HRV vegetative quantities as well as fire regime patch size and distribution.

Monitoring Results/Discussion:
(See also the response to element 22 above) During 2004-2008, there were 171 unplanned fire ignitions accounting for 137,872 burned acres within fire perimeters on the Forest. Seven of the 171 unplanned ignitions (4%) accounted for 137,420 of the burned acres. In addition to wildfires, the Forest experienced an epidemic mountain pine beetle outbreak that began in 2000 and continued through 2009, affecting over 180,000 acres on the Sawtooth NRA. Due to these large fire occurrences, the mountain pine beetle epidemic, and the need for updated vegetation data to support project decisions, the Forest completed a vegetation refresh effort which updated size class and canopy cover attributes.

Through the refresh effort, it was determined that some PVG's are more departed from desired condition than they were in 2003. The acres in the grass/forb/seedling/sapling stage for PVG 1, which occurs primarily on the Fairfield District, have increased and large tree acreage has decreased. PVG's 3 and 4 have moved closer to the desired condition in the grass/forb/seedling/sapling stage but slightly farther from the desired condition in the large trees. Currently, PVG 10 is the only PVG within the desired condition for both the largest size trees (PVG 10 only has the medium size class, large trees do not exist in this PVG) and for the grass/forb/seedling/sapling stage. PVG 7 is within desired condition for large trees and PVG 11 is within desired condition for grass/forb/seedling/sapling size trees.

Relative to the mountain pine beetle epidemic, numerous preventative vegetation treatments have been implemented since 2003 on the Sawtooth NRA. These treatments include preventive spraying of carbaryl and placement pheromone traps on approximately 753 acres between 2006 and 2010. During 2008, approximately 4,000 susceptible trees were treated within developed sites and 500 verbenone pouches were applied to 51 acres. During 2010 spraying occurred on approximately 30 acres within developed sites include Trap Creek, Sheep Trail, Elk Creek, Park Creek, Stanley Lake Campground, Alturas North Shore Campground, Alturas Inlet, 4-H Camp. Verbenone pouches were also placed were also placed on trees over 10 acres to Russian John Guard Station, Galena Summit, Galena Lodge, Baker Creek, and Alturas Inlet Beach. Approximately 50 acres of whitebark pine were protected in 2010 with verbenone treatments on the SNRA and were applied by volunteers of the Sun Valley Whitebark Pine Group.

To address areas outside the Sawtooth NRA determined to be at risk for infestation, treatments were initiated on both the Fairfield and Ketchum Ranger. On the Fairfield Ranger District, contract spraying of carbaryl for mountain pine beetle occurred in 2008 and again in 2010. Verbenone pouches were applied to trees on 11 acres and spraying occurred on approximately 19 acres determined to be at risk for infestation. On the Ketchum Ranger District, treatments in Douglas-fir began during 2006 with pheromone placement on 20 acres within the Bald Mountain Ski Area. In 2009, pheromone pouches were placed along Guyer Ridge on Bald Mountain to protect 25 acres of Douglas-fir. During 2010, two aerial applications of MCH on 2,000 acres occurred on Bald Mountain and surrounding area. These treatments will be repeated in 2011.

In addition to treatments to address the mountain pine beetle epidemic, the Forest has implemented numerous restoration projects since 2003. Attachment 3 provides a detailed list of restoration treatments, including treatments designed to move vegetation towards desired

conditions, that were implemented on the Forest from 2004-2008. These projects have been effective in improving vegetation conditions within the treatment areas.

Fuel thinning (thinning from below) and broadcast prescribed fire has been utilized on 9,699 acres or 1,940 acres annually. These treatments emphasized small tree removal whereby increasing the resiliency of the large tree component.

As described above, four fires on the Forest accounted for the majority of burned acres experienced during the monitoring period. Monitoring Trend in Burn Severity (MTBS) products (1-year post burn) were produced for those fires: 2005-Valley Road; 2007-Black Pine2; 2007-Castlerock and 2008-South Barker Fire.

The 2007 Castle Rock Fire showed low severity areas had a maximum patch size of 117 acres; moderate severity areas had a maximum patch size of 268 acres and high severity areas had a maximum patch size of 199 acres with patches distributed across the landscape. Only polygons over 10 acres were evaluated. The fire burned primarily PVG4 (Warm, Dry Douglas-fir) and with mixed severity effects.

The South Barker fire burned with mixed severity results from nonlethal through lethal and affected all PVG's. Permanent monitoring plots were established to monitor long-term vegetation effects by PVG on species composition, mortality, structure, and size class. Plot locations were established relative to the RAVG (Rapid Assessment Vegetation Condition) intensity/severity imagery completed during the summer of 2008.

According to South Barker MTBS imagery received July 2010, 9,713 acres experienced unburned to low fire severity; 7,424 acres had low fire severity; 8,883 acres had moderate fire severity; and 8,737 acres indicated high fire severity. A patch size exercise was completed for polygons over or equal to 10 acres and showed unburned to low severity areas had a mean patch size of 54.1 acres; low severity areas, 18.1 acres mean patch size; moderate severity areas, 21.9 acres mean patch size and high severity areas, 59.4 acres mean patch size. Maximum patch size for unburned to low severity areas was 1,450 acres; low severity was 69.1 acres; moderate severity was 91.3 acres and high severity was 561.0 acres.

Follow up monitoring of the burned areas will need to occur over the next several years to determine what effect the fires had on vegetation trend.

Recommend "Need for Change" in Forest Plan Direction?

As previously described, the Forest is currently in the process of amending the Forest Plan to adopt a WCS for forested vegetation. As part of the amendment, Appendix A will be modified to clarify how this appendix relates to the WCS. Changes to Appendix A would reflect the integration of several key conservation concepts including desired conditions for coarse filter and mesofilter vegetation elements, emulating natural disturbance, desired vegetative diversity and patchworks. A vegetation restoration prioritization process and spatial map would also be added to this appendix. The development of the restoration prioritization process meets the intent of objective VEOB06.

No changes in Forest Plan direction beyond what will be addressed in the WCS are recommended. Treatments and unplanned ignitions are achieving desired results as described in Appendix A.

Forest Plan Element No: 24

Activity, Practice, or Effect to Be Measured: Riparian condition

Representative Forest Plan Management Direction:

- **SWOB03** - During fine-scale analysis, identify opportunities to restore degraded soil productivity and processes.
- **SWOB12** - Design and implement management actions so they do not fragment habitat for native and desired non-native fish species. Restore connectivity in currently fragmented habitat where the risk of genetic contamination, predation, or competition from exotic fish species is not a concern.
- **SWOB16** - During fine-scale analysis, identify opportunities to restore degraded upland and aquatic habitat conditions in order to support productive and diverse populations of native and desired non-native aquatic species to meet social needs and tribal interests. Opportunities should focus on restoring passage for fish and other aquatic species, and restoring desired ranges of water temperature, large woody debris, streambank stability, sediment levels, water chemistry, and pool size and numbers. Refer to the Watershed Condition Indicators in Appendix B.
- **SWOB17** - Biennially, maintain and update the Watershed and Aquatic Recovery Strategy (WARS) using the Watershed and Aquatic Recovery Strategy prioritization process, or other appropriate methodologies.
- **SWOB18** - Reduce road-related effects on soil productivity, water quality, and aquatic/riparian species and their habitats. Refer to the Watershed and Aquatic Recovery Strategy (WARS) for mid-scale prioritization indicators to assist in fine and site/project scale restoration prioritization planning.
- **SWOB19** - Identify and capitalize on funding opportunities to assist in the restoration of aquatic habitat and watershed conditions important to the recovery of listed fish species and de-listing of 303(d) impaired water bodies. Examples of potential funding sources include the State Clean Water Act 319 funds, Federal Columbia River Power System Re-licensing funds, and funds from the Northwest Power Planning Council, public and private partnerships.
- **FROB11** - In the Forest's annual program of work, prioritize and schedule improvements to existing culverts, bridges, and other stream crossings to accommodate fish passage, 100-year flood flow, and bedload and debris transport. Include accomplishments in the biennial update of the Watershed and Aquatic Recovery Strategy (WARS) database.
- **TEOB03** - Identify and reduce road-related effects on TEPC species and their habitats using the Watershed and Aquatic Recovery Strategy and other appropriate methodologies.
- **TEOB08** - Maintain and update the Watershed and Aquatic Recovery Strategy for restoration of TEPC aquatic species habitat. Update the plan biennially by using the Watershed and Aquatic Recovery Strategy prioritization process, or other appropriate methodologies.

Monitoring Question: Are Forest management activities adequately designed (including delineation of RCAs) to maintain or improve riparian functions and ecological processes important to furthering Forest Plan goals and objectives?

Indicator: Effects on the riparian functions and ecological processes as identified in Appendix B: Guidance for Delineation and Management of RCAs

Methodology: Review of selected projects and surveys (e.g., Proper Functioning Condition; IIT Effectiveness Monitoring; remote sensing within 5th field hydrologic units)

Monitoring Results/Discussion:
Information used to address this monitoring element came from four primary sources. The first source is riparian trend monitoring associated with on-going livestock grazing. The second source is a 2008 survey on the Minidoka Ranger District of lentic systems (springs, seeps, wet meadows) and photo monitoring of 32 seeps and springs on the Fairfield District. The third source is from lakeshore surveys of large morainal lakes on the Sawtooth NRA from 1999 – 2007. The final source is a discussion of specific management activities designed for restoration of riparian and aquatic conditions implemented since 2003. In addition to the four sources of data described above, the Forest has established Multiple Indicator Monitoring of Stream Channels and Streamside Vegetation (MIM) sites in several grazing allotments across the Forest. These sites were established specifically to measure the effects of livestock grazing on stream channels and vegetation. Because establishment of these sites is fairly recent, very few MIM sites have had repeat measurements completed that could be used to establish trend for this report. This data will be included in the next 5-year monitoring report. The full specialist reports for riparian trend, lentic monitoring and lakeshore monitoring are included as attachments 4, 7 and 8 to this report.

Riparian Trend Monitoring:
From 1986 to 1994 riparian monitoring sites were established across the Forest using an integrated riparian evaluation protocol (USDA, 1992) to classify areas according to their natural inherent characteristics and determine existing conditions. Data collection on the majority of monitoring sites included data on dominant plant communities and vegetation within the transect, percent hydric vegetation in the greenline, vegetation successional status, woody species age classes, stream bank stability, photos of representative areas, etc. In 2008, the Forest resurveyed a number of the integrated riparian evaluation sites to determine how these areas had changed in the last 15 to 20 years and what may be responsible for this change. Fifty-one of the 106 established integrated riparian evaluation sites were surveyed in 2008. The resurveyed sites were located on the Minidoka and Fairfield Ranger Districts, and the Sawtooth NRA. All resurveyed sites occurred on cattle allotments. Other uses such as roads, dispersed camping, stock water developments, etc. also occurred in or near several of the surveyed sites. Most sites occurred in wider valley bottoms with lower gradient channels. Therefore, the sites monitored are some of the more sensitive areas to natural and management caused disturbance. To determine effects on riparian functions and ecological processes, both channel condition and riparian condition were reviewed. Evaluations include effects on channel condition which looked at stream bank stability, stream bank alteration, stream bank cover and channel width; and riparian condition which evaluated riparian species and woody species age classes.

Information from both time periods was reviewed by range and aquatic staff from each district to determine current condition and trends of key riparian and stream channel variables used to evaluate riparian health. Also reviewed were management activities or natural disturbance events

that occurred that may have contributed to the changed condition. Only data that could conclusively be seen in photos or determined from field forms was used to reach conclusions on current conditions or trend at each site.

Results of channel condition monitoring:

Stream Bank Stability - Stream bank stability was evaluated at 28 of the 51 sites. Stream banks remained stable at 18 sites, remained unstable at 2 sites, declined at 1 site (Lake Fork Creek), and improved at 7 sites. The poorer condition found at the Lake Fork Creek site maybe because it is located within a summer horse pasture, has approximately 450 head of cattle kept within the pasture for one night per year, and has decreased stream flows from extended drought or water developments decreasing riparian vegetation and making the channel more accessible to livestock. Of the two sites that continued to have unstable banks, Trout Creek is at a road ford and cattle crossing where up to 400 head of cattle cross the stream annually, while Buttercup Creek has only recently seen a 25% reduction in the 621 cow/calf pairs that graze the allotment. All seven sites that showed the greatest improvement in stream bank stability had grazing eliminated via riparian exclosure or closure of the allotment, a reduction (i.e. 270 to 200 cow calf pairs) in the amount of grazing, a change in the duration of grazing by the establishment of multiple pastures within the allotment, and/or the colonization of the stream by beavers which increased riparian cover. Finally, 10 of the 18 sites where stream banks remained in a stable condition had little to no change in the number of cow/calf pairs, timing, or duration of grazing over the monitored period. Many of these sites also had limited grazing (i.e. one month every other year, a few weeks a year, and trailing through) which might explain why bank alteration was low, while stability remained high.

Stream Bank Alteration - Stream bank alteration could be evaluated at 26 of the 51 sites. Less stream bank alteration was found at 10 sites, more alteration at two sites, and no change in alteration at 14 sites. The two sites with more bank alteration was the result of heavy livestock use within a small horse pasture or a cattle crossing between two allotments. Sites that showed no to low levels of alteration were due to grazing being eliminated from the site by a riparian exclosure or closure of the allotment, a change in the duration of grazing by the establishment of more pastures within the allotment, and/or a very limited grazing season (i.e. one month every other year).

Stream Bank Cover - Stream bank cover could be evaluated at 33 of the 51 sites. There was more cover at 9 sites, less cover at three sites, and consistent cover at 21 sites. As with stream bank stability and alteration, change in bank cover appeared to be related to how significant the change to grazing was at the site.

Channel Width – Changes to channel width could be evaluated at only 24 of the 51 sites. Narrower channels were seen at 10 sites, wider channels at one site (Trout Creek), and no change in stream width at 13 sites. The slightly wider stream width in Trout Creek appears to be due to an ineffective riparian exclosure over the last nine years. Cattle have used streamside vegetation and removed younger willows within the entrenched channel not allowing it to slowly rebuild its stream banks and narrow its

wetted width. Approximately 60 head of cattle have been able to get into the riparian exclosure for one month each year since 2000. Work was begun in 2009 and completed in 2010 to rectify this situation. All sites that showed narrower channel widths had grazing eliminated from the site by a riparian exclosure, closure of the allotment, reduced grazing due to the establishment of a riparian pasture, and/or, a significant reduction in the amount of grazing.

Results of Riparian Condition Monitoring:

Riparian Species - Dominant species could be evaluated at all 51 sites. However, subdominant species could only be identified at 12 of the 51 sites due to poor photo resolution or only dominant vegetation being seen along the greenline. Very few changes were seen in dominant or subdominant vegetation composition. The species (e.g. mature willows) that were present when the original photos or data was collected are the same species that are present today at most sites. The only sites where dominant vegetation changed were in the N.F. Sublett, Sixmile, and Hunter Creeks. Changes in N.F. Sublett Creek were due to the stream drying out and a conversion from riparian species (watercress and sedges) to upland species (sagebrush and grasses). Changes in Sixmile Creek were due to some sites becoming more dominated by sedges and grasses as grazing pressure decreased and noxious weed treatments increased. Finally, changes in Hunter Creek were due to a decrease in grazing pressure from the establishment of multiple pastures. This allowed seedling willows to mature and become the dominant species at several sites.

In other sites, dominant species did not change but the amount of cover provided by them did. This appears to be for several reasons. First, some sites (Lake Fork and Flat Canyon Creeks) reflected grazed vs. ungrazed conditions between the two time periods. Livestock utilized certain species (carex, grasses, etc.) decreasing overall ground cover, but did not change species composition with the exception of creating disturbed areas that supported more noxious weeds.

Second, ground cover from dominant species was different due to seasonal differences caused by more precipitation and soil moisture. Finally, ground cover from dominant species changed in some sites (Pole and Park Creeks) because grazing was discontinued or reduced over the monitored time period. It is possible that as grazing intensity decreased, conditions became less favorable for invasive and more favorable for native species. This may be especially true at sites that have better ground water and less soil compaction where it is easier for native species adapted to these conditions.

Woody Species Age Classes – Age classes could be evaluated at 30 sites of the 51 sites. Most sites had consistent woody age classes between the two time periods. Twenty sites that had mature woody species previously still had mature species when photos and data were retaken in 2008. Three sites had no woody species in either time period. Seven of the 30 sites showed more mature woody vegetation over the monitored timeframe. Many sites that had no visible woody vegetation when data was originally collected now had many seedling and young woody vegetation, while other sites went from woody vegetation in a mid-seral to a mature condition. All sites that showed improvement had

grazing eliminated from the site by a riparian exclosure or closure of the allotment, less grazing due to the establishment of a riparian pasture, and/or, a significant reduction in the amount of grazing.

Lentic Monitoring:

Monitoring assessed the condition of soil and vegetation within select lentic systems (springs, seeps, wet meadows) on the Minidoka and Fairfield Ranger Districts in 2008. Past riparian monitoring in general has focused on stream systems and has not examined small wetland sites. Forest management actions at these sites consists primarily of livestock grazing activities, both directly from livestock grazing at the site, and from water diversions for livestock watering. The sites are extremely important with regards to maintaining streams flows and ground water character, both in how precipitation is stored upon reaching the ground and in how groundwater reemerges at the surface. Subsurface and surface flow are closely linked at these sites and negative effects from management activities can reduce water storage, alter flow patterns, speed the runoff process, negatively affect water table levels at the site, and reduce stream flow downstream. Attachment 7 is includes the detailed lentic monitoring results.

Lentic Monitoring Results:

In 2008, a total of 84 lentic sites on the Minidoka District were assessed. The 84 sites represent less than 10% of the known sites on the District. Of the 84 sites, 57 were rated as having "moderate" or "high" disturbance levels, while 27 were either undisturbed or with "slight" disturbance . Livestock was noted as a disturbance source at all 57 sites rated as moderate or high and water diversion was noted at 18 of them. In short, 68% of the spring/seeps assessed were at least moderately disturbed and grazing was a contributing factor for all sites in that 68%. While these percentages may not be the same for the entire Minidoka District or the Forest, it is a significant number. A number of other springs/seeps (apart from the 84 in this assessment) have been observed in poor condition.

Livestock use at these sites tends to reduce infiltration capacity of soils, increase bare ground, increase the rate at which subsurface flow reemerges as surface flow, and increase the rate of evaporation from the site. Negative effects from water diversions include drying of surface soil surrounding the headbox or diversion box, and reducing the quantity of water at the spring.

There are numerous best management practices that minimize the negative effects of livestock grazing and water diversion. These BMPs include:

- Trough relocation away from wetland sites,
- Valve installation on water developments to reduce unneeded water from flowing to troughs
- Fencing to restrict access to wetland areas
- Herding and salting to move stock away from wetland areas

When implementation of BMPs involving trough location, water development design, and fencing occurs, it generally is done when allotment permit renewal requires NEPA analysis or when water developments are rebuilt. There are a number of springs where BMPs have not been implemented and BMPs are not always implemented when systems are rebuilt. While the Forest Plan requires that new water developments be located outside of RCAs (RAST03), it does not

require that rebuilt developments be relocated. In general, sufficient Forest Plan direction exists regarding these types of BMPs but they have not been consistently implemented on spring/seep water developments.

Of the 32 springs and seeps surveyed on the Fairfield Ranger District in the Willow/Wardrop and Solider Creek Allotments, all were found to be in desired condition. Livestock use at these sites has had minimal impact on soil compaction or ground cover. This implies that infiltration capacity has not been impaired nor have springs and seeps at these sites been impaired enough to reduce their ability to retain and slowly release water overtime.

The condition of springs and seeps varies considerably across the Forest. At this time the spring and seep results only represent a point in time sample. They do not establish a trend nor do they represent conditions of springs and seeps across the Forest. Clearly, additional trend monitoring of select spring and seeps on each Ranger District needs to occur to determine how widespread management impacts have been and where restoration efforts should be focused.

Lakeshore Monitoring

Lakeshores were initially divided into large scale segments that where subjectively deemed to be uniform in physical lakeshore characteristics. Within these segments, survey units were defined and two individuals walked survey units and recorded a variety of characteristics of "in-water", "bank", and "shore" zones. Alturas, Perkins, Pettit, Redfish, Little Redfish, and Stanley Lakes were surveyed. Comparisons between units with recreational use vs. those without recreational use allowed for a determination of recreational effects on lakeshore conditions.
Lakeshore survey methods were developed by Mark Moulton and include a nested survey design. Lakeshores were initially divided into large scale segments that where subjectively deemed to be physically uniform in lakeshore characteristics. Within these segments, survey units were defined and two individuals walked survey units and recorded a variety of characteristics of "in-water", "bank", and "shore" zones. Because lakeshore segments were subjectively identified and because lakes may differ in large scale characteristics, segment lengths and number of segments per lake varied dramatically between groups or survey years.

Several attributes were selected that were deemed to more strongly reflect recreation impacts on lakeshores and these attributes are discussed below. They include: parallel and perpendicular trails, bank alterations, bank exposure, upland large woody debris (LWD) both dead and down, inshore LWD, and lodgepole pine regeneration.

Results of Lakeshore Monitoring: Recreational use of lakeshore areas resulted in increased occurrence of exposed and scouring trails, increased occurrence of bank alterations, increased frequency of bank exposure, and decreased abundance of upland down and dead large wood. The effects of recreation on in-water counts of large wood and on measures of lodgepole pine regeneration were more varied and effects were not consistent across lakes.

Restoration Activities

Following is a summary of the results of restoration activities on the Forest. The detailed Restoration Specialist Report is included as Attachment 6 to this report. Restoration is defined as the movement of subwatershed functions, ecological processes, and structures toward desired

conditions. The basic concept is to improve watershed conditions when degraded and maintain these conditions if functioning appropriately. It is hoped that by focusing restoration in specific subwatersheds that forests could: (1) secure subwatersheds with the best water quality, best fish and aquatic species populations, etc; (2) extend favorable conditions into subwatersheds adjacent to these high quality areas to create a larger and more contiguous network of suitable and productive habitats; and (3) restore soil-hydrologic processes to ensure favorable water quality conditions for aquatic, riparian, and municipal beneficial uses that will fully support beneficial uses and contribute to the de-listing of fish species and 303(d) water quality limited water bodies.

To account for what restoration has been completed in the last five years only projects that focused on maintaining or restoring soil productivity, quality and quantity of surface water resources, or environmental features that limit the biological capability of the particular water body (i.e. river, stream, lake, etc.) were considered in the summaries below. For example, treatments that restored plant cover to prevent erosion, removed a barrier to improve fish passage, realigned a road to reduce sediment, or installed fencing to protect lakeshores vegetation and erosion were included.

Aquatic restoration can be measured by: (1) How many projects were implemented; and (2) How many acres or miles were accomplished. From 2004 to 2008, 119 projects were completed that protected, maintained, or restored water resources, soil resources, stream habitats, and lake habitats and associated desirable species. These projects improved 62.2 miles of stream, 4,951.1 acres of riparian and upland areas, 30 acres of lake, and decommissioned 39.3 miles of roads/trails. Projects focused in ACS priority subwatersheds accomplished 11.1 miles of stream, 15 acres of lake, and 3,841 acres of riparian and upland improvements over the five year period (Table 10). Projects focused in WARS high priority subwatersheds accomplished 22.7 miles of stream, 13 acres of lake, and 2,857 acres of riparian and upland improvements on the Forest.

Although ACS and WARS high subwatersheds are the highest priority for restoration, for several reasons, not all restoration projects implemented over the last five years have occurred in these subwatersheds. First, some of the aquatic restoration projects implemented in the early part of this monitoring period were planned before the revised Forest Plan was released. Second, many restoration projects are driven by specific resource issues that must be addressed immediately to prevent additional degradation (i.e. sediment coming from damaged roads or trails, post-fire related rehabilitation, etc.). Third, WARS recognized the need to invest in projects that could improve conditions in subwatersheds adjacent to the high quality areas or in 303(d) water quality limited water bodies. Some of these are in low and moderate priority subwatersheds. Fourth, restoration projects may be driven by outside groups that have a specific interest in an issue or aquatic resource that falls outside of ACS priority subwatersheds. Finally, many subwatersheds were designated as high priority because they still retain important native fish species. Many of these subwatersheds are in relatively good condition and do not have as many restoration opportunities to invest in as lower priority areas. Even with these considerations, the projects implemented still addressed many key forest-wide or management area objectives in ACS or high priority subwatersheds.

Table 10 – Restoration completed in WARS priorities from 2004-2008

	2004				2005			
		Outside ACS Priority Watersheds				Outside ACS Priority Watersheds		
	Within ACS Priority	WARS *High* Priority	WARS *Mod* Priority	WARS *Low* Priority	Within ACS Priority	WARS *High* Priority	WARS *Mod* Priority	WARS *Low* Priority
Miles of Stream Improved	0	0	6	5	2.5	4.5	5.3	0
Acres of Lake Improved	5	5	0	0	0	2	0	0
Acres of Watershed Improved	154.8	224.8	1	53.6	23	28	50	53

	2006				2007			
		Outside ACS Priority Watersheds				Outside ACS Priority Watersheds		
	Within ACS Priority	WARS *High* Priority	WARS *Mod* Priority	WARS *Low* Priority	Within ACS Priority	WARS *High* Priority	WARS *Mod* Priority	WARS *Low* Priority
Miles of Stream Improved	2.6	9.2	0	2.2	2	3	8	1
Acres of Lake Improved	5	5	0	0	2	0	0	0
Total Acres of Watershed Improved	263	2282.5	51	368.5	222	65	15	461

	2008				Total (2004-2008)			
		Outside ACS Priority Watersheds				Outside ACS Priority Watersheds		
	Within ACS Priority	WARS *High* Priority	WARS *Mod* Priority	WARS *Low* Priority	Within ACS Priority	WARS *High* Priority	WARS *Mod* Priority	WARS *Low* Priority
Miles of Stream Improved	4	6	3	9	11.1 (15%)	22.7 (31%)	22.3 (30%)	17.2 24%)
Acres of Lake Improved	3	1	0	2	15 (50%)	13 (43%)	0	2 (7%)
Acres of Watershed Improved	809	257	150	891	1,471.8 (23%)	2,857 (45%)	267 (4%)	1,827.1 (28%)

Following is a description of the restoration activities implemented on the Forest since 2003. The activities are organized by Forest Plan management objective addressed by the project(s).

Restoration Implemented within TMDL and 303 (d) Streams:

SWOB05 - *Cooperate with the State, Tribes, other agencies and organizations to develop and implement Total Maximum Daily Loads (TMDLs) and their implementation plans for 303d impaired water bodies influenced by National Forest System management.*

SWOB06 - *Work with State, Tribes, other agencies and organizations to prioritize restoration needs and to bring 303d impaired water bodies into compliance with State water quality standards in a reasonable timeframe.*

The Forest has completed a number of projects within 303 (d) streams and subbasins with TMDLs. Some of these projects have been designed to address specific pollutants of concern (i.e. sediment, suspended sediment, nutrients), while others were driven by other restoration objectives or partnership opportunities. Restoration completed from 2004 to 2008 within 303 (d) listed impaired (based on Idaho's 2002 integrated report) or TMDL waters are summarized in Table 11.

Table 11: Restoration completed within TMDL or 303 (d) subwatersheds

Category	2004-2008	Percent of Total Restoration Completed from 2004-2008
Total Miles of Stream Improved	28.95	46.5%
Total Acres of Lake Improved	0	0
Total Acres of Watershed Improved	1024.5	20.7%
Miles of Road Decommissioning	11.5	47.9%

Almost 50% of all stream restoration and road decommissioning completed in the last 5 years has been focused in streams with a TMDL or 303 (d) designations. Much of the stream restoration has focused on improving fish passage, reducing erosion along designated campsites, installing fences to reduce trampling by livestock, re-establishing stream flows by fixing diversions or installing woody debris to increase fish habitat. While not all of these projects have addressed a pollutant for which the stream was listed, they have helped to reduce sources of impairment and improve overall aquatic health. Projects completed within upslope areas or along roads/trails have addressed impacts to riparian vegetation and streams from fires, roads, trails, and dispersed campsites. Many of the projects have helped to reduce sediment sources or improve riparian vegetation in areas that are currently impaired for stream temperature or siltation/sediment. However, the Forest needs to continue to look for restoration opportunities that complement recommendations made in TMDL assessments and implementation plans when every possible to more fully meet our commitments under the Clean Water Act.

The Sawtooth National Forest has also participated in several watershed advisor groups providing input on five year TMDL reviews, TMDL implementation plans, and projects submitted for 319 grants.

IDEQ completed and submitted its 2008 Integrated Report to EPA for review and approval in July 2008. IDEQ received a partial approval/partial disapproval of the 2008 Integrated Report from EPA on February 4, 2009. This new report has updated the 303 (d) listed impaired water designations made in the 2002 integrated report and will serve as a basis for what restoration is completed by the Sawtooth National Forest within impaired waters in 2009 and beyond.

TES Related Projects:

TEOB03 *- Identify and reduce road-related effects on TEPC species and their habitats using the Watershed and Aquatic Recovery Strategy and other appropriate methodologies.*

Approximately 21 road restoration projects have been implemented over the five year monitoring period that address water quality and aquatic habitat issues. These projects decommissioned 25.5 miles of roads/trails, 167.3 acres of riparian and upland areas, and improved fish passage on 6 miles of stream. These projects are in addition to the 600 miles of annual road maintenance completed across the Forest that addresses drainage and erosional problems.

SWOB19 *- Identify and capitalize on funding opportunities to assist in the restoration of aquatic habitat and watershed conditions important to the recovery of listed fish species and de-listing of 303(d) impaired water bodies. Examples of potential funding sources include the State Clean Water Act 319 funds, Federal Columbia River Power System Re-licensing funds, and funds from the Northwest Power Planning Council, public and private partnerships.*

A number of restoration projects with partnership funding have been implemented in streams supporting listed fish species or in 303(d) streams. From 2004 to 2008 approximately $410,000 has been contributed by partners through direct cash and in-kind (e.g. materials, etc.) contributions. Some of these partners have included Custer County Soil and Water Conservation District, Wild Turkey Federation, Idaho Departments of Fish and Game, Camas County Conservation District, Trout Unlimited, Challis High School "Envirothon" club, Idaho Department of Parks and Recreation, Magic Valley Flyfishers, National Smoke Jumpers Association, Sawtooth Society, and Idaho Department of Transportation. A few examples of these partnership projects include the fences along shorelines of high use recreational lakes on the SNRA, willow planting along the Salmon River, and road relocations along Trout Creek on the Cassia Division on the Minidoka R.D.

TEOB10 *- Over the planning period, initiate habitat restoration for at least two subpopulations of anadromous fish and two populations of resident fish in each subbasin where these species occur. Use the current Watershed and Aquatic Recovery Strategy (i.e., WARS), or Forest Service approved portions of recovery plans, to assist in determining watershed priorities for habitat restoration within a subbasin.*

Over the last five years, restoration projects have been completed in numerous subwatersheds that support listed fish species or their critical habitat. The majority of projects have been completed in the Little Smoky drainage in the S.F. Boise subbasin and in Alturas Lake Creek, Cabin-Vat Creek, Redfish-Little Redfish, Stanley Lake, Beaver Creek, and subwatersheds associated with the Valley Road fire in the Upper Salmon subbasin. Following are examples of some of the work completed in the areas:

- In the Little Smoky drainage stream fords have been redesigned to reduce erosion and sedimentation during spring run-off and facilitate fish passage, beavers were transplanted into several streams, dispersed camping sites were closed along Little Smoky Creek, user created ATV trails were rehabilitated, and woody debris was placed into streams where streamside trees are at risk to theft by fuelwood cutters.
- In the Redfish-Little Redfish subwatershed projects have been implemented to limit recreational impacts on lakeshore banks, soils, and riparian vegetation by constructing wood fences, revegetating portions of the shoreline, and repairing/hardening areas along boat docks by installing stairs and handrails.
- In the Cabin-Vat subwatersheds projects have closed user created ATV routes, an abandoned irrigation diversion from was removed Cabin Creek, roads were removed to restore wetlands and upland areas by re-establishing the natural drainage, removing road fill, and compacting soils, and filling in diversion ditches.

WARS Strategy:

SWOB18 *- Reduce road-related effects on soil productivity, water quality, and aquatic/riparian species and their habitats. Refer to the Watershed and Aquatic Recovery Strategy (WARS) for mid-scale prioritization indicators to assist in fine and site/project scale restoration prioritization planning.*

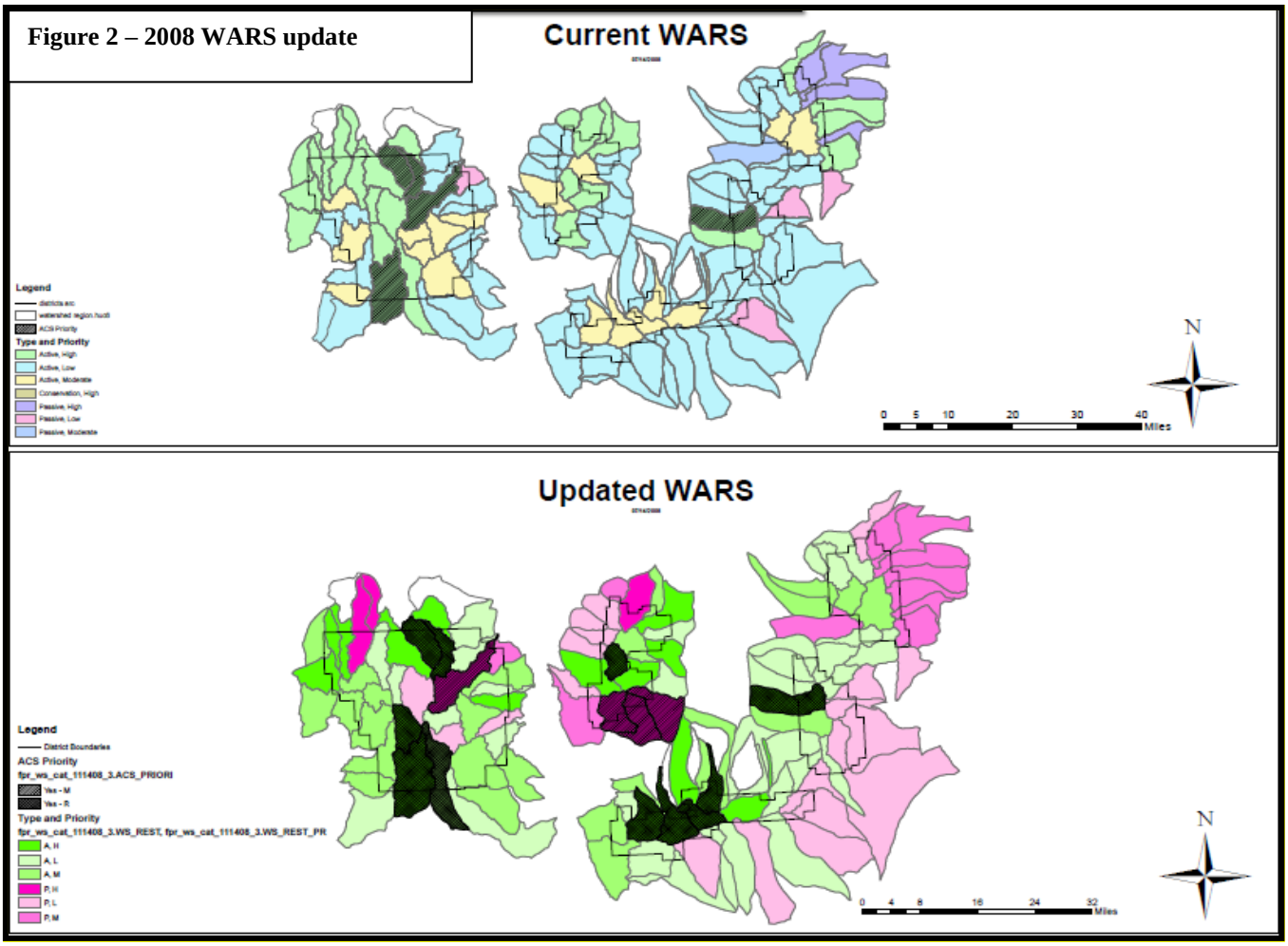
Approximately 37 road restoration projects have been implemented over the five year monitoring period that address water quality and aquatic habitat issues (Table 4). These projects decommissioned 39.3 miles of roads/trails, 451.8 acres of riparian and upland areas, and improved fish passage on 10 miles of stream. Projects focused in WARS and ACS high priority subwatersheds accomplished 33 miles (89.2%) of stream and 431.3 acres (95.5%) of riparian and upland improvements on the Forest. These projects are in addition to the 600 miles of annual road maintenance completed across the Forest that addresses drainage and erosional problems.

SWOB17 *- Biennially, maintain and update the Watershed and Aquatic Recovery Strategy (WARS) using the Watershed and Aquatic Recovery Strategy prioritization process, or other appropriate methodologies.*

TEOB08 *- Maintain and update the Watershed and Aquatic Recovery Strategy for restoration of TEPC aquatic species habitat. Update the plan biennially by using the Watershed and Aquatic Recovery Strategy prioritization process, or other appropriate methodologies.*

The WARS strategy was updated in 2008 using a combination of criteria from when the Forest Plan was revised (i.e. geomorphic and water quality integrity) and newer criteria (i.e. population and physical matrix indicator pathways) that was agreed to by the Ecogroup in 2006. Existing baseline data for each subwatershed was evaluated against these criteria to determine restoration priority and type. Restoration determinations were then reviewed by fisheries and hydrology staff on each district to see if the update reflected what they knew about the area. Once an agreement was reached, restoration determination were finalized and included in the Forest aquatic geodatabase. Figure 2 below shows the difference between the restoration priorities and determination made in 2003 vs. those made in 2008.

Figure 2 – 2008 WARS update



Fish Habitat Fragmentation:

SWOB12 *- Design and implement management actions so they do not fragment habitat for native and desired non-native fish species. Restore connectivity in currently fragmented habitat where the risk of genetic contamination, predation, or competition from exotic fish species is not a concern.*

FROB11 *- In the Forest's annual program of work, prioritize and schedule improvements to existing culverts, bridges, and other stream crossings to accommodate fish passage, 100-year flood flow, and bedload and debris transport. Include accomplishments in the biennial update of the Watershed and Aquatic Recovery Strategy (WARS) database.*

A number of projects have been completed over the five year monitoring period that address fish passage flood flows, and bedload movement (refer to Appendix A for a complete list of projects). In 2003 and 2004, approximately 500 stream crossings were inventoried on the Sawtooth National Forest. The purpose of the culvert inventory was to better describe the extent of culvert barriers across the Forest to fish and associated aquatic species. The emphasis was to first focus on those streams with listed bull trout, cutthroat trout, steelhead trout, and anadromous salmon. Another objective was to prioritize culverts needing restoration taking into account

extent of habitat blocked, habitat quality, importance of stream, etc. Approximately 70% of these culverts are barriers to fish passage.

Several projects addressing fish barriers have been completed on the Forest. In 2004, a culvert was replaced with a bridge on the S.F. Soldier Creek. This project restored fish passage for Wood River sculpin and native redband trout to several miles of streams and reduced a chronic sediment source. In 2005 a culvert was removed from Salt Creek to restore upstream fish passage at an old logging road crossing. Removal of the culvert provided access to two miles of habitat in Salt Creek. In 2006 a culvert was removed from Big Water Gulch Creek to restore upstream fish passage to two miles of stream. The perched round 48" diameter culvert was replaced with a round 120" diameter culvert. The new culvert was countersunk about 5 feet and filled with appropriate substrate to simulate a natural stream channel.

Stream fords have been addressed across the Forest when roads have been decommissioned or fords redesigned. These projects include the redesign of fords in Little Smoky and Emma Creeks. At the Little Smokey crossing the ford was reconstructed in conjunction with a realignment of the stream channel. A new stream channel was excavated downstream of the ford to eliminate most of the existing road-stream overlap and the ford was graded and hardened to minimize the potential for recapture of the creek. In 2007, fords on FR 079 road of lower Emma Creek in the S.F. Boise subbasin were reconstructed to reduce sedimentation of habitat and improve access during low flows.

Recommend "Need for Change" in Forest Plan Direction?
Riparian trend:
As described above, 51 established riparian monitoring sites were re-evaluated in 2008. The sites fell within 15 allotments located on the Minidoka and Fairfield Ranger Districts, and the Sawtooth NRA (Elba C&H, Westend C&H, Sublett C&H, Stanley Basin C&H, Lake Fork C&H, Gooding C&H, Hunter Creek C&H, Willow C&H, Sheep Basin S&G, Salmon-Pole-Champion S&G, Eightmile C&H, South Heglar C&H, Warm Springs Meadow C&H, Wardrop C&H, Goose Creek C&H). For the majority of sites within the allotments, conditions appeared to be either good or are improving. However, one or more monitoring sites within five of the 15 allotments were found to be in either static – fair/poor condition or declining condition. The Willow C&H and Wardrop C&H allotments on the Fairfield District included monitoring sites that indicated static – fair/poor conditions for one or more of the variables monitored. Both allotments were analyzed in 2010 through the NEPA process. Decisions on both allotments included non-use for resource protection to address, among other things, degraded riparian habitat. Given the provisions for non-use in the 2010 decisions, it is expected that an improvement in riparian trend should be realized in the future.

On the Minidoka District, the Lake Fork, Goose Creek and Sublett C&H allotments had segments with static – fair/poor conditions and segments with declining conditions. As noted in the descriptions above, contributing factors to the monitoring sites examined within these three allotments included not only livestock grazing effects, but also effects from cross-country motorized use and drought. None of the three allotments has had recent allotment NEPA analysis completed. The Goose Creek allotment is scheduled for analysis in 2013, with the Lake Fork and

Sublett allotments in 2016. It is anticipated that, through these analyses, some changes to allotment management may be necessary to address livestock contributions to degraded riparian conditions. Some livestock impacts within the Goose Creek allotment have been recently addressed by rebuilding fence around a cattle exclosure in the Trout Creek valley bottom.

Based on the initial results of the riparian trend monitoring, it does not appear that changes to Forest Plan direction are needed at this time. However, more re-sampling of photo point sites is needed to better determine trend in riparian conditions. Also, as funding allows, additional photo points in other riparian types (i.e. wilderness lakes, RNAs, lakes, etc.) should be established to determine trend and overall condition. Given that allotment NEPA analysis is not scheduled to begin on the Lake Fork and Sublett allotments for another 4 years, it is recommended that further review of the degraded segments in these allotments occur to determine if and how livestock grazing and other management activities are contributing to the degraded conditions. Until such time as the NEPA is completed on the allotments, adjustments allotment management would be made through annual operation instructions to address areas of concern.

Lentic Trend: As described above, 32 springs and seeps surveyed on the Fairfield Ranger District in the Willow/Wardrop and Solider Creek Allotments were found to be in desired condition. Livestock use at these sites has had minimal impact on soil compaction or ground cover. In contrast, 57 of the 84 assessed sites on the Minidoka District were rated as having "moderate" or "high" disturbance levels, while 27 were either undisturbed or with "slight" disturbance . The sites fell within 11 allotments located on the Minidoka Ranger District (West End C&H, Clarks Basin S7G, Deadline S&G, Little Piney S&G, Big Creek C&H, Trout Creek S&G/C&H, Oakley Valley C&H, Buckbrush S&G, Coal Pit C&H, and Ridgeline C&H). Allotments with the most sites in either a high or moderate disturbed condition included West End C&H, Big Creek C&H, Trout Creek S&G/C&H, Oakley Valley C&H, Coal Pit C&H, and Ridgeline C&H.

None of the six allotments with the most sites with high or moderated disturbed conditions, except West End (2009) and Tunnel Hill/Big Creek (2010), has had recent allotment NEPA analysis completed. The Trout Creek and Oakley Valley allotments are scheduled for analysis in 2011-2013, with the Coal Pit and Ridgeline allotments in 2014-2016. It is anticipated that, through these analyses, changes to allotment management may be required to address livestock contributions to degraded spring/seep/wet meadow conditions. Attachment 9 describes the management actions and additional monitoring the Forest will take to address concerns with lentic sites on the Minidoka District and the Forest.

Lakeshore Trend: The Forest has implemented a number of restoration projects (i.e. construction of logworm fences, planting native vegetation, moving recreational facilities away from lakeshore and riparian areas, and leaving downed wood debris) to address these recreational impacts. These projects have resulted in the protection and recovery of sensitive lakeside habitats where currently compromised by recreation pressure. Given this, monitoring results do not indicate a need for change in Forest Plan direction.

Restoration:
As described above, the Forest has made considerable progress on management objectives related to restoration of soils and aquatic resources. As with most resource program areas, funding does appear to be the biggest factor in not making even greater movement on objectives. Given this, monitoring results do not indicate a need for change in Forest Plan direction.

Forest Plan Element No: 25

Activity, Practice, or Effect to Be Measured: Maintenance and Restoration of Forested Conditions

Representative Forest Plan Management Direction:

- VEOB06 - Determine high-priority areas for vegetation management actions that restore or maintain vegetation desired attributes.
- BTOB14 - Collect seeds of native plants to be used in rehabilitation and restoration activities. Collect seed in accordance with seed zones or breeding zones. Develop long-term storage facilities for collected seeds such as the seed bank at the Lucky Peak Nursery.

Monitoring Question: Has establishment of off-site native tree species affected the maintenance or restoration of desired forested conditions?

Indicator: Number of regeneration acres dominated by off-site native tree species

Methodology: Survey of regeneration acres

Monitoring Results/Discussion:
During the first 5 years of plan implementation the Forest treated a total 509 acres with regeneration harvest. Of those 509 acres, only 102 acres were planted with the other 407 acres regenerating naturally. All planted seedlings came from seed collected within the correct seed zone. No off-site seed was used therefore the restoration of desired forested conditions has not been affected by off-site species.

Relative to management objective BTOB14, the Forest does have an active seed collection program. Through this program, seed is collected from both forested as well as non-forested vegetation types. The seed collected for forested vegetation types is typically sent to the Lucky Peak nursery for germination and future use in either restocking or restoration projects.

In accordance with management objective VEOB06, the Forest is currently in the process of developing a wildlife conservation strategy for forested vegetation species. Part of this conservation strategy involves identification of departed conditions within the forested vegetation communities across the Forest. The WCS will include long-term priorities for vegetation restoration.

Recommend "Need for Change" in Forest Plan Direction?
Given the Forest does not use off-site seed, there is no identified need for change in Forest Plan direction relative to the use of off-site seed.

Restoration of forested vegetation communities and the associated wildlife habitat is necessary across the Forest. However, due to limited resources and funds, not all needs can be addressed at once. In accordance with VEOB06, the Forest is developing a prioritization of needed restoration to address wildlife habitat needs and improve overall Forest health. This prioritization strategy will result in a change in Forest Plan direction. The forested WCS and vegetation restoration strategy is expected to be released in the winter, 2011.

Forest Plan Element No: 26

Activity, Practice, or Effect to Be Measured: Habitat for terrestrial Threatened, Endangered, Proposed, Candidate or Forest sensitive (TEPCS) species, both plant and animal

Representative Forest Plan Management Direction:

- TEOB07 - During fine-scale analyses, identify practices or facilities that are adversely affecting TEPC species or their habitats, and prioritize opportunities to mitigate, through avoidance or minimization, adverse effects to TEPC species.
- TEOB18 – During fine-scale analyses in areas where TEPC species occur, identify opportunities to maintain desired habitat conditions or restore degraded habitat for TEPC species.
- VEOB06 - Determine high-priority areas for vegetation management actions that restore or maintain vegetation desired attributes.
- WIOB03 - Prioritize wildlife habitats to be restored at a mid- or Forest-scale, using information from sources such as species habitat models, and fine-scale analyses. Initiate restoration activities on priority wildlife habitats to move current conditions toward desired conditions.
- WIOB09 – During fine-scale analyses, identify and prioritize opportunities for restoring degraded MIS and Sensitive species habitat.

Monitoring Question: Are management actions providing for, for moving toward, the extent of vegetation components necessary to meet the needs of TEPCS species?

Indicator: Changes in habitat acres

Data Used in Evaluation:

Methodology: Project data and spatial tracking databases (eg., FACTS) identifying known and restored habitats

Monitoring Results/Discussion (use separate page(s) if necessary):
As described in monitoring element 25 above, wildlife habitat restoration is necessary across the Forest. Changes in vegetation resulting from decades of fire suppression, forest management, wildfires, insect outbreaks, and other factors have directly and indirectly affected habitat quality, quantity, and distribution. Since implementation of the Forest Plan, the Forest has completed numerous restoration treatments that have benefitted both listed and non-listed species (see

attachment 3 for a list of completed restoration projects). These treatments have ranged from prescribed fire intended to maintain or move vegetation towards historic conditions; mechanical treatments to restore meadows, wetlands and aspen stands; using beaver transplants to improve riparian and watershed conditions; removing barriers to movement and habitat connectivity (i.e. fence removal); decommissioning roads and closing areas to off-road vehicle use to address impacts from user created routes and to reduce the potential for future user created routes; etc. In some cases, these restoration treatments were developed as part of projects designed to meet other management objectives, however wildlife and TEPCS habitat concerns are addressed in all Forest actions. In 2008, the Forest completed travel planning for summer motorized use on the Fairfield, Ketchum and Minidoka Ranger Districts. One of the key issues considered in the decisions was effects to terrestrial wildlife species. Among other things, the Travel Plan decisions included closure of 952 miles of motorized user created routes, closure of the Forest to cross-country motorized use, and seasonal closures to protect wildlife during critical life stages. Reducing impacts from roads and off-road vehicle use has improved habitat quality and reduced habitat fragmentation, degradation and disturbance for numerous terrestrial species.

At this time, the Forest does not have a coordinated wildlife and vegetation strategy identifying which areas should be prioritized for treatment. To address this, the Forest is currently in the process of developing a WCS at the planning unit scale (2.1 million acres) to identify priorities to maintain and restore wildlife habitats of concern, reconnect functional habitat areas, allow natural disturbance regimes to function on the landscape, and minimize the effects of human disturbance during critical life stages for wildlife species of concern. Prioritizing wildlife habitat restoration helps managers integrate future wildlife habitat restoration projects with other resource priorities—such as those identified in the Forest Plan Aquatic Conservation Strategy (ACS)—and with areas where human values at risk must be addressed (e.g., wildland urban interface [WUI]). Given limited resources for restoration projects, integrating priorities across the spectrum of biophysical and socio-economic needs allows the Forest Service to capitalize on common funding sources and minimize or avoid unintended effects. Prioritizing restoration areas will help ensure source environments are expanded and functional habitat areas are reconnected in a manner and time frame that provides the greatest benefit to species of conservation concern. Source environments are the composite of all environmental conditions that results in stationary or positive population growth for a species in a specified area and time.

Recommend "Need for Change" in Forest Plan Direction?

While the Forest is currently implementing restoration projects across the Forest, there is a definite need to develop a strategy for habitat restoration to capitalize on restoration efforts. As described above, the Forest is in the process of developing such a strategy for forested vegetation communities and for wildlife species dependent on those communities. This strategy will result in a change in management direction in the Forest Plan. Once the Forested WCS is complete, the Forest will begin a non-forested vegetation WCS which likely also result in a change in Forest Plan direction. To aid in development of the non-forested WCS, the Forest is currently in the process of completing an intensified data collection of non-forested vegetation across the Forest. This data will be used to create a new, non-forested vegetation layer to be used in the non-forested WCS analysis and restoration strategy.

Forest Plan Element No: 27

Activity, Practice, or Effect to Be Measured: Terrestrial Management Indicator Species

Representative Forest Plan Management Direction:

- WIOB08 - Continue to map locations of species occurrence and habitat for MIS and Region 4 Sensitive species during fine- and site/project scale analyses. Incorporate information into a coordinated GIS database, including FAUNA, and coordinate with the Idaho Conservation Data Center.
- WIOB09 - During fine-scale analyses, identify and prioritize opportunities for restoring degraded MIS and Sensitive species habitat.
- WIOB10 - Update appropriate NRIS database modules for sensitive species' occurrence and habitat on a biennial basis to incorporate the latest field data.

Monitoring Question: Are management actions maintaining or restoring distribution and abundance of management indicator species?

Indicator: Population trends, demographic population data

Methodology: Monitoring surveys and the distribution of occurrence records across the species' range on the Forest by watershed

Monitoring Results/Discussion:
There are two aspects to monitoring element 27: 1) are management activities maintaining or restoring distribution of Management Indicator Species; 2) are management activities maintaining or restoring the abundance of Management Indicator Species. To address this element relative to pileated woodpecker, the Forest reviewed data relative to population trends and distribution for pileated woodpecker in occupied habitat on the north end of the Forest, and state-wide trends as reported in the annual Breeding Bird Surveys. To address this element relative to Greater Sage-grouse, the Forest reviewed data relative to population trends and distribution for Greater Sage-grouse in occupied habitat across the Forest and in Sage-grouse planning areas adjacent to or overlapping the Forest boundary. Following is a summary of the monitoring results, more detailed information can be found in Attachment 10 - Sawtooth National Forest Terrestrial Management Indicator Species Forest Plan 5-Year Monitoring Report (2011) For Pileated Woodpecker and Greater Sage-Grouse.

Pileated Woodpeckers:
Pileated woodpecker surveys involving permanent point counts have been conducted annually since 2004 along established transects throughout the north end of the Sawtooth. Survey locations were identified in both potential and existing suitable habitat across the pileated woodpecker historic range on the Forest. Between 340 and 370 survey points have been consistently surveyed each year. In addition to bird presence, habitat information is collected at each point in the form of vegetative structure. Vegetative structure is collected: a) within a 100 meter radius of each point, b) within a 30 meter radius of each point, and c) within a 15 meter radius of each point. The results of the annual surveys are shown in Table 12 below.

Table 12. Number of Individual Pileated Woodpeckers Observed per Year on the Northend of the Sawtooth National Forest on Established Transects.

Year	2004	2005	2006	2007	2008	2009
Individuals Observed	6*	17	7	16	12	12

*****The number of pileated woodpeckers counted in 2004 was reported incorrectly in the 2004 monitoring report. Other bird species counted along the survey transects were inadvertently included in the 2004 pileated woodpecker numbers.

As shown in Table 12, counts on the Forest ranged from a low of 6 in 2004 to a high of 17 in 2005. A number of factors could have contributed to the lower counts observed in 2004 and 2006, including timing, weather influences, etc. Using both the occurrence data and the point count survey data, early indications are that pileated woodpecker populations on the Forest are relatively stable. In addition to the Forest specific data, each year the North American Breeding Bird Survey (BBS), a cooperative effort between the U.S. Geological Survey's Patuxent Wildlife Research Center and Environment Canada's Canadian Wildlife Service, monitors the status and trends of North American bird populations. Pileated woodpeckers are one species of bird monitored annually by the BBS. BBS data analyses suggest that pileated woodpecker populations have increased throughout their range (Sauer et al. 2008). Western BBS Region data show a modest annual increase of 2.2 percent (n = 320 routes, p = 0.0017) between 1966 and 2007. Idaho data show an annual increase of 2.0 percent (n = 18 routes, p = 0.365) during the same period.

In addition to population monitoring, a review of source habitat was conducted. Source habitat is widespread across the north-end of the Forest and occurrence data shows pileated woodpeckers being detected in all forested PVGs on the north-end of the Forest. Pileated woodpeckers have been observed in 26 of the 27 source habitat watersheds on the Forest.

Greater Sage-grouse:

Greater Sage-grouse populations on the Forest are assessed annually using the following techniques and information: **1**) Presence/Absence Data of breeding season activity; **2**) Counts of the number of male Sage-grouse using those breeding season areas; **3**) Use of lek site data from the Idaho Department of Fish and Game; **4**) General Observations; and **5**) Occurrence data used from other agency radio-collar studies to determine when Sage-grouse are on the Forest. The majority of the Forest's sage-grouse population data is collected by IDFG and Utah Division of Wildlife Resources (UDWR) through annual lek route surveys. Both Idaho and Utah have state management plans for the management and conservation of Greater Sage-grouse. These Plans include dividing the state into sage-grouse management/planning areas and call for the creation of Local Working Groups (LWG). There are three planning areas that encompass partions of the Sawtooth NF, the North Magic Valley Planning Area (NMVPA) which overlaps onto the south end of the Ketchum and Fairfield Ranger Districts; the South Magic Valley Planning Area (SMVPA) which covers the portion of the Minidoka District that falls within the state of Idaho; and the West Box Elder Adaptive Resource Management Area (WBEARMA) which covers the Raft River Division on the Minidoka District which falls within the State of Utah. Among other things, the NMVPA, SMVPA, and the WBEARMA local working groups work with the IDFG and the UDWR to conduct population and habitat monitoring.

Annual sage-grouse lek surveys are the main population estimation technique used by the IDGF and UDWR (See Appendix B for the Sage-Grouse Lek Routes Protocol). The number of leks surveyed each year is determined by the level of resources available (i.e. financial, personnel, logistical). This situation causes varying levels of intensity of lek monitoring from year to year. However, both state agencies and each LWG do have a number of lek routes that have been consistently monitored each year since at least 2000. Information from these routes can be used to estimate population trends. When reviewing lek route data, it is important to understand that daily attendance of sage-grouse at lek locations and the ability to detect birds can be influenced by variables such as weather, time of day, the presence of predators, and other factors.

There are no sage-grouse leks known to occur on national forest lands on the north end of the Sawtooth. Although there are no known lek sites located on the north end of the Forest, there are eight consistently run lek routes conducted in the NMVPA. Two of these lek routes are within 2 miles of the Forest boundary and four within 20 miles. As such, data from the lek sites located south of the Forest boundary can be used to estimate population trends on the north-end of the Forest. Figure 3 displays the Sage-grouse population data specific to 15 routes monitored regularly since 1976 within the NMVPA.

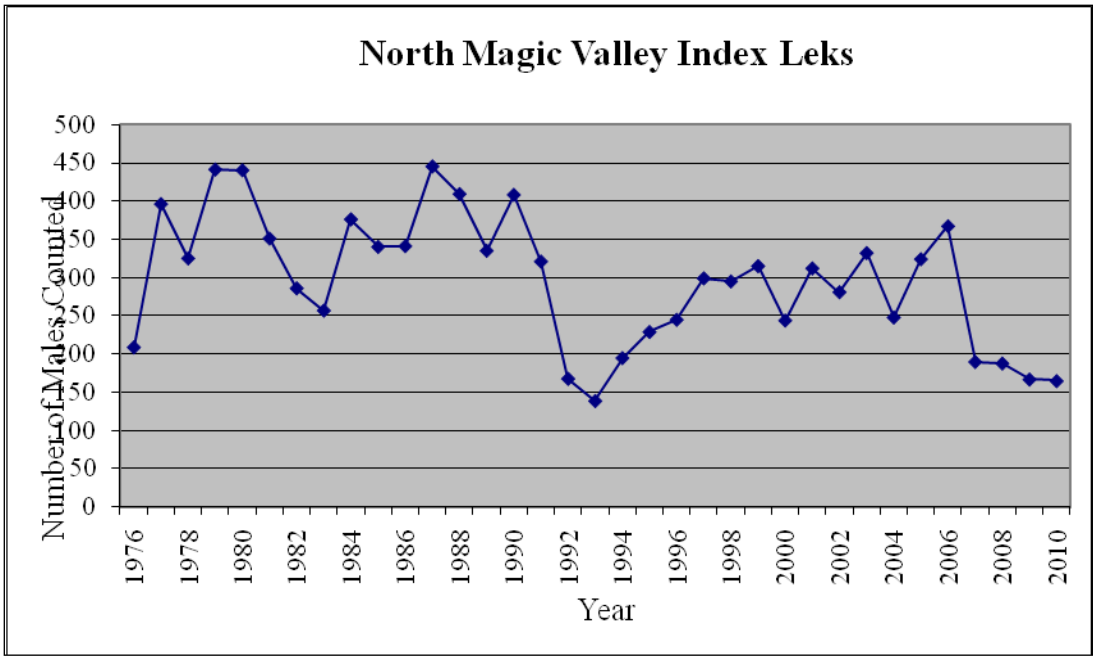


Figure 3. Counts at 15 Leks in the NMVPA.

While population increases were noted across the North Magic Valley area between the late 1990's to 2006, a sudden drop in population numbers was noted in western locations of the region in 2007. This drop in population is thought to be from a local outbreak of West Nile Virus in late summer/early fall 2006. West Nile Virus was never confirmed in sage-grouse within the NMVPA, but highly suspected as many species (including humans) suffered from the virus in that year. Population numbers in 2008 were slightly below 2007, but somewhat increased in 2009. Known cases of West Nile in most species have considerably reduced since 2006.

The Cassia Division of the Minidoka RD appears to have three distinct migratory populations of sage-grouse. One population winters in Shoshone Basin and migrates to the Deadline Ridge uplands. Another population on the north end of the Cassia Division winters in the Dry Creek, Indian Springs, and McMullen Creek areas and migrates to uplands on the division. A third population winters at various locations in the Oakley Valley area with some birds nesting on Cottonwood Ridge and other groups migrating into other upland areas on the division. There are two standardized lek routes run on the Minidoka RD, the Cottonwood Ridge Route and the Dry Creek Route. Sage-grouse population data specific to routes on the Minidoka RD is summarized in Table 13. During years where lek routes show no data, it is generally because those areas were inaccessible during the time of year routes are typically run or resources were not available to monitor those lek routes.

Table 13. Total number of males counted by year on Standardized Lek routes monitored on the Cassia Division on the Minidoka RD.

LEK ROUTE	2004	2005	2006	2007	2008	2009	2010
Cottonwood Ridge	67	97	104	59	45	32	37
Dry Creek			25		48	15	29

*Years where no data is shown represent years where surveys were not conducted

The SMVPA Local Working Group has reported through its' annual reports that the average number of males per lek on routes that were monitored ranged from 20 males in 2004 to 10 males in 2010. Similar to the NMVPA, lek counts indicated slight population increases across the South Magic Valley area from 2004 to 2006, with a sudden drop in population numbers noted in 2007. While there is limited evidence that West Nile Virus (WNV) affected sage-grouse in the South Magic Valley, local IDFG Biologists suspect that it was a factor in the significant population declines noted in 2006-2007 (See population data displayed below). One dead sage-grouse was found that was diagnosed positive for WNV. No other sage-grouse were confirmed to have WNV. Since sage-grouse population declines are considered severe for such a short time-frame, it is assumed that something like WNV played a role because population declines of that magnitude cannot be explained with poor production alone (e-mail response from IDFGINFO; January 2011).

There are three known, active leks on the Raft River Division, the Lynn Spring, the NE Lynn Reservoir and the Broad Hollow Fields leks. The NE Lynn Reservoir lek was first surveyed in 1980 and was monitored periodically through 1998. Beginning 1999, the lek has been monitored annually. The Lynn Spring and Broad Hollow Fields leks have been surveyed periodically since 1979 and 1971 respectively. In 2010, UDWR requested that the Forest begin annual monitoring of the Broad Hollow Fields lek. Table 14 includes the survey data gathered on the three leks located on the Raft River Division from 2000 to present.

Table 14. Total number of males counted by year on Standardized Lek routes monitored on the Raft River Division of the Minidoka RD

LEK	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Lynn Spring			7		2		0			0	
NE Lynn Reservoir	42	34	50	41	32	30	22	10	18	17	17
Broad Hollow Fields	2		7	3	4						2

*Years where no data is shown represent years where surveys were not conducted

Given that two of the three Raft River leks have not been consistently monitored over the past decade, data from other leks located within the WBEARMA but outside of the Forest boundary that have been surveyed annually since at least 2000 can be used to estimate population trends on the Forest (Table 15). Lek surveys completed for West Box Elder show a stable to slightly declining trend through 2006 and then, similar to populations in Idaho, show a sharp decline in 2007 (2011 USFS Utah sage-grouse lek data).

Table 15. Total number of males counted by year on Standardized Lek routes monitored in West Box Elder County outside the Forest boundary

LEK	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Park Valley-Rosette M53	25	25	9	19	23	18	18	8	11	15	11
Rosette East 3	11	*	0	8	15	21	9	2	3	2	1
Dove Creek Sign	19	23	14	12	21	14	13	8	7	1	3

*This route was not surveyed in 2001

Recommend "Need for Change" in Forest Plan Direction?

Pileated Woodpeckers : Point Count Survey data gathered between 2004 and 2009 indicates that the population trend for pileated woodpecker on the Forest is relatively stable. While this estimation is similar for population trends across Idaho based on the BBS, additional years of survey data are necessary to make a definitive call on population trend. Similarly, point count survey data and occurrence data indicate that pileated woodpeckers are well distributed throughout their habitat on the Forest. This estimate is based on the information that pileated woodpeckers have been observed in 26 of the 27 source habitat watersheds on the Forest. This species does not appear limited by dispersal across the Forest. Based on the results of monitoring element 27, there are no identified needs for change in Forest Plan direction relative to pileated woodpecker populations.

Greater Sage-grouse: The purpose of collecting lek route data annually is to establish a population trend with a relationship to management activities. Given that it is not known what role West Nile virus outbreaks played in the significant population declines noted throughout the Forest in 2007-2009, and the limited years of data collected, a statistically valid population trend prediction as it relates to the effects of management activities on sage-grouse populations is not yet possible. However, it appears that prior to the 2007-2009 population declines, population

trends on the Sawtooth were stable or slightly improving. Data collected in 2010 indicate that population numbers are slightly improving from the lows in 2007-2009. Additional data gathered over the next 5-years of Forest Plan implementation may provide a more valid population trend. Based on the results of monitoring element 27, there are no identified needs for change in Forest Plan direction relative to sage-grouse populations.

Forest Plan Element No: 28

Activity, Practice, or Effect to Be Measured: Terrestrial Management Indicator Species

Representative Forest Plan Management Direction:

- WIOB03 - Prioritize wildlife habitats to be restored at a mid- or Forest-scale, using information from sources such as species habitat models, and fine-scale analyses. Initiate restoration activities on priority wildlife habitats to move current conditions towards desired conditions.
- WIOB07 - Maintain or restore each PVG in each watershed (5^{th} field hydrologic unit) to provide at least 20 percent of the forest vegetation in the large tree size class (medium tree size class in PVG 10 – Persistent Lodgepole Pine).
- WIOB08 - Continue to map locations of species occurrence and habitat for MIS and Region 4 Sensitive Species during fine- and site/project scale analyses. Incorporate information into a coordinated GIS database, including FAUNA (i.e. WILDLIFE) and coordinate with the Idaho Conservation Data Center (Idaho Natural Heritage Program).
- WIOB09 - During fine-scale analyses, identify and prioritize opportunities for restoring degraded MIS and Sensitive species habitat.
- WIOB10 - Update appropriate NRIS database modules for sensitive species' occurrence and habitat on a biennial basis to incorporate the latest field data.
- VEOB01 - During fine-scale analysis, identify and prioritize areas for regeneration of:
  a) Aspen in both climax stands and as a seral component of coniferous stands
  b) Native herbaceous understory in shrub communities
  c) Woody riparian species
  d) Whitebark pine.
- VEOB06 - Determine high-priority areas for vegetation management actions that restore or maintain vegetation desired attributes.

Monitoring Question: Are management actions providing for, or moving towards, the extent of vegetation components necessary to meet the needs of MIS species?

Indicator: Change in habitat acres; change in large tree structure by PVG

Methodology: Existing project data and spatial tracking databases (e.g., FACTS) identifying known habitats and restored habitats

Monitoring Results/Discussion:
The key aspect of this monitoring element is a determination as to whether management actions are providing for, or moving toward the extent of vegetative components necessary to meet the needs of MIS species. To address this element, the Forest looked at data relative to management activities implemented on the Forest under the direction of the 2003 Forest Plan (See Attachment 10 - *Sawtooth National Forest Terrestrial Management Indicator Species Forest Plan 5-Year Monitoring Report (2011) For Pileated Woodpecker and Greater Sage-Grouse,* Appendix C for a project list), as well as natural occurrences, i.e. wildfire and bark beetle outbreaks, that have occurred since 2003.

Pileated Woodpeckers:
Since the analysis for the 2003 Forest Plan was completed, a measurable amount of forested PVGs, including those stands that provide pileated woodpecker habitat, have been affected by historic stand-replacing wildfires, insects and disease attacks, and to a lesser degree, management activities (i.e. timber harvest, fuels reduction treatments, fire exclusion, and vegetation manipulation treatments). Because of these changes, the Forest initiated the *Vegetation Refresh for the Montana Forested Vegetation Dataset* in 2008 (See Attachment 10, Appendix A for a description of variables considered and changes made to PVGs). The "refresh" modified both tree size and canopy cover relative to fire severity and mountain pine beetle mortality. The "refreshed" data show that reductions in tree size class and canopy cover reduced the amount of pileated woodpecker habitat on the Forest.

In addition to the Vegetation Refresh process, the Forest began work on development of a Wildlife Conservation Strategy (WCS) for forested communities to address Forest Plan objective WIOB03 - *Prioritize wildlife habitats to be restored at a mid- or Forest-scale, using information from sources such as species habitat models, and fine-scale analyses. Initiate restoration activities on priority wildlife habitats to move current conditions towards desired conditions.* As part of the WCS process, the Forest updated the multi-scale analysis completed for the 2003 Forest Plan. Through the WCS process, it was determined that some changes in Forest Plan direction were needed to address changes in Forest conditions, to reflect best available science and to build upon the Utah and Idaho Comprehensive Wildlife Conservation Strategies (Idaho CWCS; IDFG 2005 and CWCS; UDWR 2005) which were developed after completion of the 2003 Forest Plan. In particular, it was determined that WIST01, which required that the Forest maintain at least 20% of the acres within each forested PVG found in a watershed (5^{th} field HU) in large tree size class (medium tree size class for PVG 10, persistent lodgepole pine), is no longer an appropriate "threshold" for conservation of wildlife habitats in the large tree size class. Through the WCS, this standard will be replaced with standards that focus on size class, canopy cover and composition specific to individual PVGs identified to be in need of restoration rather than a one-size fits all standard.

As part of the Forest's annual monitoring program, the Forest has reviewed several vegetation management projects that have been implemented within pileated woodpecker habitat. Many of these projects, such as the South Fork Boise River Ponderosa Pine Thinning project, included wildlife habitat improvement objectives. The review process showed that the projects were successful in moving vegetative conditions towards desired condition and that mitigation

measures designed to reduce impacts to wildlife species and habitat as well as applicable Forest Plan direction relative to wildlife management was implemented.

The majority of vegetation management projects implemented on the Forest since 2003 included a fuels reduction objective. Projects with a specific objective to reduce fuels to provide defensible space to structures and private property can negatively impact pileated woodpecker habitat through a reduction in habitat components such as large trees and snags, and a reduction of coarse woody debris. These projects have had design input by wildlife biologists to minimize any potential impacts to pileated woodpecker habitat. Timber harvest, fuels reduction, and vegetative manipulation treatment projects have been designed to minimize adverse impacts to pileated woodpecker source habitats and to ensure that long term habitat components will develop over time.

From 2003 to 2010, approximately 54 acres of pileated woodpecker habitat on the Forest were treated mechanically to reduce fuels and decrease the potential fire severity. These projects include: Inlet Salvage Sale (Sawtooth NRA 2005), Valley Salvage Timber Sale (Sawtooth NRA 2006), Stanley Lake Salvage (Sawtooth NRA 2007), Warm Springs Timber Sale (Ketchum Ranger District 2007), and Smoky Pine #3 Timber Sale (Fairfield Ranger District 2009).Through design input from District Wildlife Biologists and incorporation of applicable Forest Plan direction, these treatments either maintained or improved pileated woodpecker habitat.

In addition to mechanical treatments, approximately 1,694 acres of pileated woodpecker habitat was treated using either Rx fire or wildfire use for resource benefit from 2003 to 2010. These treatments include: Kale Creek Rx Fire 2004 (Ketchum Ranger District), Barker Marsh wildfire use for resource benefit Fire 2005, Lime Creek 2007 and 2008 (Fairfield Ranger District), and Phillips Creek Rx Fire 2009 (Fairfield Ranger District). Similar to the mechanical treatments, input from District Wildlife Biologists as well as Forest Plan direction was used to either design and/or manage these fires.

Since 2003, the Forest has had several wildfires burn within potential pileated woodpecker habitat. A total of 78,242 acres of forested lands on the north end of the Forest were affected by wildfire between 2003 and 2010. These wildfires include the Valley Road, Trailhead, Castle Rock, South Barker, and Trail Creek fires. Within these burned areas, approximately 21,000 acres in PVGs 1, 2, 3, 4, 7, and 10 burned at high severity. High severity fires are considered to be stand-replacing and therefore represent a long-term loss (>15 years) to pileated woodpecker habitat. Approximately 54,000 acres were determined to have burned within the low and moderate Severity categories. These acres would be considered as either maintained or a short-term loss (<3 – 15 years) to pileated woodpecker habitat based on burn patterns, etc.

In addition to activities or natural occurrences that directly affect forested vegetation, human use of roads and trails can potentially affect pileated woodpeckers and their habitat. High road densities may limit the development of suitable habitat characteristics in pileated woodpecker source habitat by promoting snag removal, habitat fragmentation, and recreational activities. In addition, high levels of human activity associated with road and trail use can cause pileated to leave roost trees. In 2008, the Forest completed a revision of its summer use Travel Management Plan. Implementation of the 2008 Travel Management Plan is improving the effectiveness of

pileated woodpecker habitat on the Forest through elimination of motorized cross-country travel, closure of non-system roads and trails, and designation of motorized travel routes. These management actions will help in decreasing the potential disturbance of pileated woodpeckers and their source habitats (e.g. reduce snag cutting activities). The reductions in road and trail densities associated with the 2008Travel Plan should result increased pileated woodpecker habitat effectiveness.

Greater Sage-grouse:

As part of the Southwest Idaho Eco-group (SWEIG) Forest Plan Revision process mapped sagebrush types on the three forests and estimated the density of canopy cover. Since completion of the Forest Plan revision project, the SWEIG sagebrush data was compared to 2004 NAIP aerial photography and to data from 131 sagebrush line intercept transects. The aerial photography comparison showed that the SWIEG GIS data underestimated the total actual sagebrush acreage. Data from the line intercept transects showed that the SWIEG data both overestimated some areas and underestimated other areas relative to the percent canopy cover on 63% of transects.

To prepare for initiation of the rangeland biological community WCS, and to address mapping errors with sagebrush communities, the Forest is completing a Forest-wide "intensified grid" inventory of non-forested vegetation communities. Information from this inventory will be used to create new maps of sage-grouse habitat on the Forest, and will provide key information needed for development of the rangeland community WCS. This inventory is expected to be completed sometime during the Fall 2012, with map products and data layers available in the winter of 2012-2013.

As part of the Forest's annual monitoring program, the Forest has reviewed several vegetation management projects that have been implemented within sage-grouse habitat. Many of these projects, such as the North East Cassia project, were designed with specific objectives to improve sage-grouse habitat. Canopy cover for many of the sagebrush communities across the Forest are not within desired ranges. Much of this condition can be attributed to fire exclusion in these vegetation types. To address this, many of the vegetation management projects designed to improve sage-grouse habitat include reintroduction of fire either through the use of prescribed fire or managed wildfire for resource benefit. The review process showed that the projects were successful in moving vegetative conditions towards desired condition and that mitigation measures designed to reduce impacts to wildlife species and habitat as well as applicable Forest Plan direction relative to wildlife management was implemented. The majority of projects with objectives to improve sage-grouse habitat have involved prescribed fire or managed wildfire.

From 2003 to 2010, there were 42,202 acres of current sage-grouse habitat burned by wildfire on the Forest. Of that total, 966 acres (approximately 930 of these acres were burned in the 2007 Black Pine Fire on the Minidoka RD) were in the High Severity burn category; 18,828 acres were in the Moderate Severity burn category; and 22,408 acres were in the Low Severity burn category. Because high severity burns are considered stand replacing, areas of sage-grouse habitat burned in the High Severity category are assumed to be not suitable for use by sage-grouse for approximately 15 years post burn. Recovery rates for mountain big sagebrush to typically reach the 5% canopy cover needed to provide sage-grouse habitat is 8-14 years

(Winward 1991, Pedersen et al. 2003). No lek sites occurred in the 966 acres of sage-grouse habitat burned in high severity on the Forest. Approximately 30 % of the 966 acres of sage-grouse habitat lost to severe intensity wildfire was reseeded.

The 41,236 acres that burned in the moderate and low severity burn categories is considered a short-term or temporary loss (3 years or less) to sage-grouse habitat due to the high variability of burn severity and burn patterns typical of fires in these habitats. Areas of sage-grouse habitat burned in the Moderate or Low Severity burn category, while causing a temporary or short-term loss of habitat, are considered as either maintaining or improving sage-grouse habitat. These moderate and low severity category burns generally show increased plant vigor and improved understory vegetative diversity. The most extensive fire affecting sagebrush in the 2003 to 2010 time period was on the Black Pine Division of the Minidoka RD. There have been several sightings of sage-grouse within the Black Pine fire perimeter since that area burned in 2007. These sightings were made in the unburned areas, the reseeded areas, and the burned and naturally recovering areas (Santini, D. 2007-2010).

In addition to sage-grouse habitat burned by wildfire, approximately 1000 acres of sagebrush vegetative types were burned using prescribed fire from 2003 to 2010. Prescribed fire projects included the Bally Mountain prescribed burn, the Raft River Aspen broadcast burn and the Cassia Mountain View prescribed burn.

Considering fire as it relates to sage-grouse habitat, approximately 98% of the total acres burned on the Forest either maintained or improved sage-grouse habitats. During this time period, no occupied sage-grouse leks were impacted by either wildfires or prescribed fires. Since no occupied leks were in burned areas, no post-burn surveys occurred as part of the annual lek surveys.

Under the direction of the 2003 Forest Plan, the Forest has completed several mechanical treatments within sage-grouse habitat. The Northeast Cassia Project on the Minidoka District was begun in 2009 and when completed will treat 4,700 acres in key sage-grouse habitat. The project is targeting sage-grouse habitat that has been degraded mainly through fire exclusion resulting in conifer invasion. Approximately 1,000 acres have already been mechanically treated with the intent to return these habitats to a more suitable vegetative community for sage-grouse use. The project also addresses wildfire prevention by removing fuels in key early and late brood rearing habitat and is expected to lessen the chance of large scale habitat degradation and removal by decreasing fire severity.

From 2003 to 2010, approximately 381 acres of sage-grouse habitat were mechanically treated to reduce fuels and decrease the potential fire severity on the Forest (See Attachment 10, Appendix C for a project list). These treatments either maintained or improved this habitat. In addition to fuels reduction projects, 380 acres on Mt. Harrison on the Minidoka District were seeded to native grasses and forbs thereby improving sage-grouse habitat. There are no vegetative treatments that occurred in this time period that resulted in sage-grouse habitat loss or degradation.

In 2008, the Forest completed a revision of its summer use Travel Management Plan on the Minidoka, Ketchum and Fairfield Ranger Districts. The revised Travel Plan decisions included elimination of motorized cross-country travel, closure of non-system roads and trails, and designation of motorized travel routes. Roads and trails pose a risk to Greater Sage-grouse habitat through factors such as increased human access to their habitat, habitat fragmentation, spread of invasive species, increased wildfire risk, and collisions. Elimination of cross-country travel through the revised summer Travel Management Plan benefits sage-grouse by reducing potential disturbance of nesting and early/late brood rearing habitat, reducing habitat fragmentation through reductions in route densities, and reducing the potential for motorized vehicles to spread noxious weeds or start wildfires within sage-grouse habitat (SNF Travel Plan Map Revision, 2008). Through the revised Travel Plan, approximately 500,681 acres of sage-grouse habitat on the Fairfield, Ketchum, and Minidoka Ranger Districts that were previously open to cross-country travel are now closed to cross-country travel. Closure of these acres to cross-country travel will reduce or eliminate current and potential impacts to sage-grouse habitat associated with cross-country motorized use in these areas. Additionally, the Forest has physically closed and restored approximately 55 miles of roads and trails in sage-grouse source habitat to date.

From 2003 to 2010, approximately 10,000 acres of sage-grouse habitat (less than 2% of the total sage-grouse habitat on the Forest) were determined to contain some level of invasive plant (noxious weed) species. Invasive plant species compete with and can replace beneficial plant species required by sage-grouse, thereby degrading the environmental condition of sage-grouse habitats. The Forest does have an active noxious weed treatment program and treats as many acres of known infestation as possible. However, funding constraints do not allow for all known infestations to be treated annually. Forest -wide, noxious weed infestations are evaluated annually; new infestations are identified, mapped and treated while previous infestation sites are revisited, evaluated, and treated as needed. Treatment areas are prioritized annually with highest the priority assigned to those areas previously treated in an attempt to eradicate treated populations, followed by newly identified individual plants or populations in an attempt to keep them from becoming an established infestation. Treatment applications include herbicide spraying, mechanical/physical, or bio-control. Due to the small amount of sage-grouse habitat containing noxious weeds and annual noxious weed treatments it is believed that noxious weeds are having only a minimal effect on sage-grouse habitats on the Forest.

Recommend "Need for Change" in Forest Plan Direction?

Pileated Woodpeckers : The Forest does have an active vegetation management program and is making progress towards goals and objectives for developing the extent of vegetative components necessary to meet the needs of MIS species. Overall, from 2003 to 2010, vegetative manipulation projects and management activities have had a positive effect on pileated woodpecker habitat on the Sawtooth National Forest. As previously stated, the Forest is in the process of developing a Wildlife Conservation Strategy (WCS) in accordance with Forest Plan objective WIOB03. Through the WCS process, it was determined that some Forest Plan direction relative to wildlife habitat associated with forested communities, including standard WIST01, was no longer appropriate considering best available science. Through the Forested WCS, the Forest Plan will be amended to include direction to focus restoration in forest stands

classified as “large tree size class” and “medium tree size class” to promote desired old forest habitat or large tree stand conditions and to reduce hazards and risks to these habitats. This amended direction will benefit pileated woodpeckers.

In addition to needed changes in management direction identified in the WCS, it is recognized that much of the Forest is not adequately covered by a MIS associated with forested habitats. Therefore, there is a need to add an additional MIS. To address this concern, it is recommended that the Forest add Northern goshawk as an MIS and results of population trends be analyzed and reported in the next 5-year monitoring and evaluation report. The Northern goshawk, an R4 Sensitive species, does have habitat distributed across the entire Forest. The Sawtooth has been annually monitoring goshawk nesting territories and collecting nesting habitat data across most of the Forest.

Greater Sage-grouse:
Overall, from 2003 to 2010, vegetative manipulation projects and management activities have resulted in improvements in Greater Sage-grouse habitat on the Sawtooth National Forest. While the Forest did experience a long-term loss of approximately 950 acres of sage-grouse habitat as a result of wildfire, overall, wildfires experienced since 2003 have or will result in improved sage-grouse habitat through increased plant vigor and improved understory vegetative diversity. The primary limiting factor in not making greater progress in improving sage-grouse habitats is lack of funding.

While the Forest is currently implementing restoration projects across the Forest, there is a definite need to develop a strategy for habitat restoration to capitalize on restoration efforts. As described above, the Forest is in the process of developing a new vegetation layer that more accurately displays the current condition on non-forested vegetation communities across the Forest. This information will be used in completion of the non-forested vegetation WCS which likely result in a change in Forest Plan direction.

Forest Plan Element No: 31

Activity, Practice, or Effect to Be Measured: Snags and coarse wood for wildlife habitat and soil productivity

Representative Forest Plan Management Direction:

- SWOB03 - During fine-scale analysis, identify opportunities to restore degraded soil productivity and processes.
- VEOB06 - Determine high-priority areas for vegetation management actions that restore or maintain vegetation desired attributes.

Monitoring Question: Are snags and coarse woody debris at, or moving towards, desired conditions as described in Appendix A of the Forest Plan?

Indicator: Number of snags and coarse wood by size class for each PVG within activity areas

Methodology: Review of selected assessments, inventories or projects. Aggregate results of annual reviews for reporting.

Monitoring Results/Discussion:
See also the discussion for woody debris in Element 24.
Forest ID Team annual project reviews of projects with the potential to affect coarse woody debris, such as prescribed burns and timber sales, included monitoring to determine compliance with Forest Plan direction for snags and coarse woody debris. Field reviews found that sufficient snags and coarse woody debris were provided for in project implementation. In areas impacted by the mountain pine beetle epidemic, there is an abundance of snags. However, many of these areas are at risk for fire and/or blow down.

That being said, through the work being completed for the WCS amendment changes to direction for snags will be modified to better emphasize retention of large snags as well as distribution of snags across the landscape.

Recommend "Need for Change" in Forest Plan Direction?
Snag and woody debris requirements are being met through project implementation. Concerns over distribution of large snags important to wildlife are a concern and will be addressed in the forthcoming forested WCS.

Forest Plan Element No: 34

Activity, Practice, or Effect to Be Measured: Project implementation

Monitoring Question: Have prescriptions, projects and activities been implemented as designed and in compliance with the Forest Plan?

Indicator: Project reviews and yearly summaries for Pacfish/Infish IIT team

Methodology: Review of IIT implementation monitoring; State (DEQ/DSL) and Forest reviews of selected 6th field hydrologic units

Monitoring Results/Discussion:
A Sawtooth Forest Plan Interdisciplinary Team (ID Team) was formed in 2004 in order to annually monitor implementation of the 2003 Forest Plan. From 2003-2009, the ID Team reviewed numerous projects including fuels & vegetation treatment, travel plan, livestock grazing, bridge & road work, trail work, mining plans, and special uses projects.

The projects that were evaluated in 2004 were all designed and implemented just prior to the 2003 Forest Plan being approved. However, all projects were designed to ensure that they were in compliance with the draft elements of the Forest Plan as shown in the DEIS. This was done deliberately in order to avoid any potential conflicts with the revised plan being implemented in 2003. The ID Team project reviews in 2004 also demonstrated that those projects were in compliance with the 2003 Forest Plan relevant elements. All projects evaluated from 2005-2009

were found to have appropriately incorporated applicable Forest Plan standards and guides, and with the exception of two projects, were successfully implemented on the ground.

The two projects identified as not being implemented in conformance with the project design were the Bally Mountain Prescribed Fire and the Dove Creek Quarry Operations Plan.

Relative to the Bally Mountain project, as discussed in the 2005 monitoring report, areas within the prescribed burn burned outside of prescription resulting in areas that had previously burned re-burning, and leave areas and avoidance areas were burned. As a result, the south facing slopes burned hotter than anticipated and did not meet prescription. This left the south facing slopes vulnerable to increased erosion potential. A very high intensity thunderstorm occurred over the project area on July 19, 2004 (downstream landowners recorded a rainfall level of 7" in one hour). The storm caused significant soil erosion off the prescribed burn site on the south facing slopes. Rill erosion also occurred outside of the burn area however, the extent of erosion was not as severe in these areas. Effects of the soil erosion were noted on private lands adjacent to the Forest. As part of the field review, a mitigation plan was developed and implemented to address the washouts that occurred. In addition, the Forest identified a number of lessons learned with recommended actions to be used and considered in future prescribed fire activities.

Of lesser concern is the Dove Creek Quarry project. The Dove Creek Quarry does contribute to the Forest Plan objective to provide for reasonable access and occupancy of NFS lands for mineral related activities. Relative to the objective to operate in accordance with approved plans of operation, most aspects of the mining operation were in accordance with the plan of operations. However, some aspects of rehabilitation were either not implemented or not sufficiently clear to ensure that the anticipated results on the ground were achieved. In the future, more frequent sites visits during rehabilitation need to occur and more attention given to how mitigation measures are described.

Recommend "Need for Change" in Forest Plan Direction?
As evidenced by the overall success of the site-specific projects, there is no need to change Forest Plan direction. Continuing to utilize a 'lessons learned' approach is important when unexpected results occur after implementation.

Forest Plan Element No: 36

Activity, Practice, or Effect to Be Measured: Aquatic ecosystems stream flows

Representative Forest Plan Management Direction:

- SWOB16 - During fine-scale analysis, identify opportunities to restore degraded upland and aquatic habitat conditions in order to support productive and diverse populations of native and desired non-native aquatic species to meet social needs and tribal interests. Opportunities should focus on restoring passage for fish and other aquatic species, and restoring desired ranges of water temperature, large woody debris, streambank stability, sediment levels, water chemistry, and pool size and numbers. Refer to the Watershed Condition Indicators in Appendix B
- SWOB19 - Identify and capitalize on funding opportunities to assist in the restoration of aquatic habitat and watershed conditions important to the recovery of listed fish species and de-listing of

303(d) impaired water bodies. Examples of potential funding sources include the State Clean Water Act 319 funds, Federal Columbia River Power System Re-licensing funds, and funds from the Northwest Power Planning Council, public and private partnerships.

Monitoring Question: Are forest management actions maintaining or restoring the processes and functions that regulate stream flows and ground water character?

Indicator: Tracking acres in ECA; road density; number of federal water rights obtained; stream discharge in selected 6th field hydrologic units

Methodology: IIT Effectiveness monitoring; USGS water resources data; R1/R4 Habitat Inventory; mid- fine- and site-scale analyses

Monitoring Results/Discussion:
Actual stream flows and ground water character are affected by such a variety and number of variables that forest management actions play only a partial role. Even if reliable data for stream flow existed, a cause and effect relationship between the two would be difficult to establish.

However, we can look at the processes that regulate flows and ground water and what effect management actions have on those processes. The general concept of this question relates to the "sponge" analogy. The more the landscape is able to soak up precipitation the more it will slowly release it over time. If precipitation soaks into the ground it is stored within the soil and shallow aquifers, and is released slowly over dry periods to maintain stream flows. If precipitation does not infiltrate the soil profile, runoff occurs quickly, resulting in higher peak flows, less storage of runoff in soil and shallow aquifers, and a subsequent lower amount of available water in streams and aquifers during dry periods.

The "sponge" condition is primarily determined by infiltration of precipitation to upland soils, and the infiltration of storm runoff into floodplain soils. In short, the path of precipitation upon reaching the ground is determined by soil and riparian conditions and, Forest management actions do play an important part in soil and riparian conditions.

The Sawtooth National Forest has authority over land management actions within its administrative boundaries. The Forest can issue special use permits to any diversion facility (i.e. headgates, screens, ditches, etc.) that may occur on National Forest administered lands. The Forest does have authority to condition these special use permits in a manner that minimizes damage to the environment however, any applied conditions must be harmonized with State law. The Forest must recognize state water rights and provide applicants reasonable access to obtain their allocated water. The water right dictates where the water can be taken (the point of diversion), how the water can be used (the purpose of use), where the water can be used (the place of use), and when the water can be used (the season of use). Similar to privately held water rights, diversion of water for any use by the Forest Service requires application to and permitting by the appropriate state agency (Idaho Department of Water Resources and Utah Division of Water Rights). Water rights and consumptive uses are important with respect to maintaining stream flows and ground water since the magnitude of water diversions can override the influence of land management on stream flow and ground water character. In other words, even with the very best of land management and watershed conditions, stream drainages can be

dewatered by legal and permitted water withdrawals and leave a dry channel or lowered water table.

To respond to the subject monitoring question, Forest management actions that affect on soil and riparian conditions are separated into two categories:

> **Category 1 -** Actions that can negatively affect soil and/or riparian conditions as a result of another main objective (timber sale, grazing, road or trail construction).
>
> **Category 2 -** Actions that improve soil or riparian conditions or have that improvement as a main objective (road or trail decommissioning or reroute, vegetation treatment, campsite rehabilitation, stream channel restoration, etc).

The negative effects of category 1 are addressed with a variety of Best Management Practices (BMPs) that have been developed at both the state and federal level. The Sawtooth Forest Plan incorporates many of those BMPs into management direction within the Plan and federal and state policy generally requires use of hydrologic BMPs in project design.

Projects in category 2 may have soil and/or riparian improvements as a main objective, but can still have short term negative effects. BMPs are applicable and required for these types of projects as well to address the potential short term negative effects of these actions.

The following questions for the two types of categories summarize the monitoring question and help focus the analysis for forest management actions implemented from 2004-2008:

> **Question 1 – Category 1:** Were appropriate BMPs recommended, implemented, and effective at reducing the negative effects on soil and riparian conditions by all forest management actions?
>
> **Question 2 – Category 2:** Were sufficient restorative actions (actions with soil and riparian condition improvement as a main objective) implemented to improve soil and riparian processes?

Other monitoring questions have significant overlap with this question. Similar hydrologic processes are affected by BMPs aimed at improving water quality and fish and wildlife habitat. Review of projects for monitoring questions regarding restoration and conservation activities, water quality and beneficial use support, and aquatic species habitat and abundance will have overlap with this question since many hydrologic processes are benefitted by individual projects. Summaries and results from other monitoring questions are referenced below.

Project Reviews

Category 1

Forest Plan standards and guidelines have numerous requirements for maximum disturbances levels (SWST02, SWST03), BMPs (STGU05, STGU08, SWGU09), and other requirements specific to the type of disturbance (TRST04, TRST07, RAST01, RAST03, RAST04, RAGU09). These BMPs and requirements are designed to minimize the negative effects of management actions to hydrologic resources. The key is whether project design includes applicable BMPs, whether they are implemented properly, and whether the BMPs were effective.

Forest Project Implementation Reviews: In the Forest's response to the water quality monitoring question, 25 project implementation reviews conducted on the Forest between 2004 and 2008 are referenced. With a few exceptions (Bally Mountain Burn, Dove Creek quarry) most projects successfully planned and implemented BMPs to limit soil disturbance and protect water quality. The monitoring question for "Project Implementation" addresses whether actions have been "implemented as designed and in compliance with the forest plan".

Timber Forest Practices Audit: A timber forest practices water quality audit was conducted in 2008 on the Iron Creek Parking Lot sale (see Forest's water quality report). Conducted by Idaho Department of Environmental Quality and Department of Lands to assess compliance with applicable requirements under the Idaho Forest Practices Act and Clean Water Act, the review found that applicable requirements were followed, including those that specifically relate to soil disturbance, soil condition, and stream crossings and riparian condition.

Category 2

Between 2004 and 2008 the Sawtooth National Forest had 119 projects completed with main objectives to benefit soil and riparian conditions. Table 16 below summarizes the miles of stream improved, acres of lakes and watershed improved, and miles of decommissioned roads and trails.

Table 16. Soil/Riparian Restoration Project Results (2004-2008)

Stream Improved (miles)	62.2
Lake Improved (acres)	15.0
Watershed Improved (acres)	4951
Road/Trail Decommissioned (miles)	39.3

One of the most significant projects implemented during the monitoring period with substantial soil and riparian benefits was the Travel Plan Map Revision signed in February, 2008. The Plan eliminated motorized cross-country travel and established a system of designated roads and trails on the Fairfield, Ketchum, and Minidoka Ranger Districts. Prior to the 2008 Travel Plan, much of the Forest was open to cross country motorized travel and significant erosion and stream crossing issues were occurring from motorized vehicles and the increased popularity of ATVs. The decision eliminated cross country travel and closed over 995 miles of routes to motorized travel on three districts. This had two major benefits to soil and riparian conditions. First, 995 miles of route were closed and, over time, many of the problems associated with these routes (soil compaction, soil erosion, increased runoff) will be reduced as vegetation on the routes grows in. Second, the potential for creation of new user created routes is greatly reduced with the elimination of cross-country travel.

While these changes did not immediately remove all soil and vegetation concerns, recovery will occur naturally and decommissioning work will speed the process on priority routes. Significant work prior to and since 2008 has focused on physical closure and rehabilitation of system routes closed though the decisions and non system routes not designated for motorized travel. The Bear Hollow Road Decommissioning is one example of a road that was closed as part of the travel plan and decommissioned in 2008. The Bear Hollow road was among the system routes that were closed in the travel plan process. Its 0.85 mile length was almost entirely within the

riparian corridor, was eroding and steep, captured the stream flow for 100 yards, and had a plugged culvert stream crossing in very poor condition. Bear Hollow is 303(d) listed and in a Forest priority subwatershed. Decommissioning occurred in July 2008 monitoring in October 2009 found much improved soil function and appropriate riparian and upland plants species growing within the former roadbed.

Other projects are prioritized and planned based on Forest priorities as established in the Watershed Aquatic Recovery Strategy (WARS), Forest Plan, and by TMDL listing. Among this type of project was the Trout Creek channel stabilization and road relocation project, also implemented in 2008. The Trout Creek channel stabilization and road restoration project was necessary to relocate an 800 feet section FR 264 that had captured the main channel of Trout Creek. The result was a headcutting and incising channel, lowering of the water table, and a degrading and often impassable road. The work relocated the road upslope and away from Trout Creek, decommissioned the old roadbed, replanted vegetation along the channel, constructed three rock drop structures in the channel, and expanded and rebuilt an ineffective livestock exclosure fence along the riparian corridor. The work was done in July 2008 and conditions in 2010 showed a higher water table, increased water depth, decreased channel velocities, increased obligate riparian species along the channel, appropriate upland grass species along the drier portions of the former roadbed, and little advancement of the headcut. All of these results contribute to an increased ability of the valley bottom to capture and store high flows, contribute to subsurface water storage, reduce peak flows, and maintain higher base flows.

Forest Riparian Trend Report: This report summarized monitoring at 51 sites on cattle allotments from the Minidoka and Fairfield Ranger Districts and the Sawtooth National Recreation Area. Results of the riparian trend monitoring are summarized in monitoring element 24 above.

Spring/Seep Inventory: In 2008, an initial inventory of lentic sites was conducted on the Fairfield and Minidoka Districts in an attempt at assessing soil and vegetation conditions at springs/seeps/wetlands. Past riparian monitoring in general has focused on stream systems and has not examined small wetland sites. This initial inventory was conducted on the Cassia Division of the Minidoka District which includes a large number (900+) of indentified springs and the Willow/Wardrop and Soldier Creek Allotments on the Fairfield District. The sites are extremely important with regards to maintaining streams flows and ground water character, both in how precipitation is stored upon reaching the ground and in how groundwater reemerges at the surface. Subsurface and surface flow are closely linked at these sites and negative effects from management activities can reduce water storage, alter flow patterns, speed the runoff process, negatively affect water table levels at the site, and reduce stream flow downstream.

In 2008, a total of 116 sites were assessed. The results of the assessment are discussed in the lentic monitoring results discussion in monitoring element 24 above.

Recommend "Need for Change" in Forest Plan Direction?
As shown through several monitoring and review processes, the majority of Forest management actions have been designed and implemented with sufficient BMPs to minimize the negative effects of disturbance activities and to maintain soil and riparian conditions that directly affect

stream flows and ground water character. There have also been numerous restorative actions implemented that have enhanced soil and riparian conditions.

There remain a few streams below functioning condition and in static or declining condition. These streams appear to be the exception and Districts are implementing new strategies and BMPs when they occur. However, a significant percentage of the springs/seeps assessed so far appear to have conditions that do not maintain sufficient stream flows or groundwater character. Grazing appears to be the primary disturbance to these systems. As described in element 24, changes to allotment management will be required to address livestock contributions to degraded spring/seep/wet meadow conditions. Attachment 9 describes the management actions and additional monitoring the Forest will take to address concerns with lentic sites on the Forest.

Forest Plan Element No: 38

Activity, Practice, or Effect to Be Measured: Aquatic ecosystems

Representative Forest Plan Management Direction:

- SWOB16 - During fine-scale analysis, identify opportunities to restore degraded upland and aquatic habitat conditions in order to support productive and diverse populations of native and desired non-native aquatic species to meet social needs and tribal interests. Opportunities should focus on restoring passage for fish and other aquatic species, and restoring desired ranges of water temperature, large woody debris, streambank stability, sediment levels, water chemistry, and pool size and numbers. Refer to the Watershed Condition Indicators in Appendix B.
- SWOB18 - Reduce road-related effects on soil productivity, water quality, and aquatic/riparian species and their habitats. Refer to the Watershed and Aquatic Recovery Strategy (WARS) for mid-scale prioritization indicators to assist in fine and site/project scale restoration prioritization planning.

Monitoring Question: Are management actions and Forest Plan direction effectively maintaining WCIs when currently in range of desired conditions, and restoring WCIs when outside the range of desired conditions over multiple spatial scales?

Indicator: Changes in watershed, channel and habitat condition and water quality indicators

Methodology: Review of selected project mid-, fine-, and site-scale analyses; review of IIT effectiveness; R1/R4 Habitat Inventory, and DEQ BURP data

Monitoring Results/Discussion:
The Forest utilized data from 2 primary sources to address monitoring element 38. The first data source included monitoring results from annual implementation reviews conducted on a mix of projects completed across the Forest. These reviews were conducted by the Forest Interdisciplinary team (ID Team) and focused on: 1) determining if the project design was in compliance with Forest Plan direction; 2) if the project was implemented as designed; and 3) if Forest Plan direction and project specific mitigation measures provided the intended results on the ground.

The second data source used PIBO data. The Sawtooth and Boise National Forests have worked with the PACFISH, INFISH Biological Opinion (PIBO) monitoring group in Logan, Utah to develop a monitoring strategy to determine the trend of watershed condition indicators (WCIs) across each forest. PIBO monitoring is intended to evaluate the effect of land management activities on aquatic and riparian communities at multiple scales. It will assess whether management direction is effective in maintaining or improving aquatic and riparian conditions at both the landscape and sub-watershed scales on federal lands. The PIBO monitoring approach evaluates the trend of select WCIs across all subwatersheds where PIBO integrator reaches have been established. Each integrator reach was sampled over a 5-year period from 2001 to 2005, and will be re-sampled on a five-year rotation.

A summary of the results of both monitoring approaches is described below:

Results from annual project reviews: From 2004 to 2008 annual implementation reviews were completed on each ranger district. Projects reviewed ranged from removing beetle killed trees to aquatic restoration. In total, 23 projects were reviewed by the Forest ID Team. Reviews found that most projects were designed to avoid ground disturbance in riparian areas that could impact water quality. Forest plan standards and guidelines (Appendix A) intended to protect water quality had been implemented in almost all projects. Two projects were found to have not completely met Forest Plan direction – the Dove Creek Quarry and the Bally Mountain prescribed fire – both on the Raft River Division. Remedial actions were prescribed to address the non-compliance issues on both projects and follow up monitoring on the Bally Mountain prescribed fire has found that degraded resources are recovering. The One mile-West end grazing allotment review found localized impacts to riparian areas. However, the district and permittees have made good faith efforts to meet the intent of forest plan direction by relocating or changing grazing practices that had been identified as contributing to the degradation of water quality. These changes have resulted in a slowly improving trend of riparian areas and stream channels in Johnson and Wildcat Creeks.

Results of PIBO monitoring: To evaluate the trend of WCIs, the PIBO monitoring group developed an integrity index of physical habitat indicators. Indicators considered included but were not limited to: percent banks with undercuts, average bank angle, the percent of fine sediment in pool tails, the frequency of large woody debris (pieces/km), the volume of LWD, the percent of pool habitat, and the average residual pool depth. PIBO identified candidate indicators from 17 total attributes collected at PIBO sample sites using a three-step sequence. First, PIBO selected those physical habitat attributes that exhibited relatively low sampling variation based on reaches repeat-sampled within a year. Next, PIBO tested whether attributes with low sampling variation were responsive to management actions to evaluate the responsiveness of each attribute to management activities. Finally, PIBO minimized redundancy of those attributes that met the specific criteria in the first two steps to avoid over-weighting certain components of the physical instream habitat represented in the overall index.

Once attributes were selected, reference sites were used to construct the index. For the reference sites, landscape and climatic covariates were integrated into multiple linear regression analyses to control for inherent differences in physical habitat attributes among reaches. Results of these analyses were used to score individual attributes (i.e. percent banks with undercuts, average bank

angle, the percent of fine sediment in pool tails, the frequency of large woody debris, etc.) retained in the index for an overall index of abiotic condition. Index scores ranged from a low of 0 to a high of 100. PIBO incorporated monitoring data from managed sites (both landscape and field data) into the regression models used to develop the integrity index (from reference sites) to calculate and score the index for managed sites.

Results from this analysis indicate that the average index score for reaches within managed subwatersheds is significantly lower than the score in PIBO reference streams. The average index score for PIBO reference streams is 63.4. On the Sawtooth NF, 32% of the 149 sites with index scores had values less than 40, 52% had values 40-70 and 16% had values greater than 70. These results suggest that certain instream WCIs (i.e. the percent of fine sediment in pool tails, the frequency of large woody debris (pieces/km), the percent of pool habitat, etc.) are generally better in reference streams than managed streams.

PIBO has resurveyed 80 integrator reaches (35 sites on the Sawtooth NF) across the Southwest Idaho Ecogroup. From this PIBO has been able to evaluate the condition in physical index scores between reference and managed sites. Results of the resurveyed reaches found that reference sites have declined more (10.4 points) than managed sites (2.5 points) over the monitored timeframe (2001-2009). However, these changes need to be viewed with caution since the sample size of reference sites is very low. Managed sites appear to have not declined very much or have remained static in the last nine years. The precise reasons for a lack of improvement are unknown at this time.

The condition of streams and WCIs was also assessed with the use of a macro invertebrate index from PIBO data. This index looks at the ratio of observed-to-expected taxa richness. The ratio of the number of taxa observed at each monitored test site (O) as compared to the number of taxa expected to occur (E) is used as a measure of biological impairment (O/E ratio). An OE score of 1.00 indicates that the species observed in field sampling meet the predicted values given the PIBO model. The further that a site deviates from the 1.0 value is an indication that the site is degraded for one reason or another (temperature, fines, etc.).

Based on PIBO data collected, an O/E score less than 0.78 is considered disturbed. The average O/E index score for PIBO reference streams within the Southwest Idaho Ecogroup is .96. On the Sawtooth NF, 44% of the 138 sites with O/E scores were below the 0.78 value. As with the physical index scores, the O/E scores show more impaired macro invertebrate assemblages within managed sites than reference sites. However, the overall average is still above what is considered disturbed or degraded.

Recommend "Need for Change" in Forest Plan Direction?

Lower physical and O/E index scores in managed subwatersheds indicate that management activities may be impacting watershed, riparian, and habitat conditions. However, the degree to which management activities have impacted specific WCIs is not fully known. Similarly, index scores in managed subwatersheds do not distinguish between degradation that may have occurred as a result of historic activities versus current management activities. Implementation reviews have shown that most management activities have followed Forest Plan direction and have limited impacts to stream and riparian areas. However, not all management activities have

been reviewed and certain ones (e.g. cattle grazing, roads, etc.) likely continue to be causing localized impacts that have an influence on O/E and physical index scores. Mean route densities can be used as a surrogate for management activities and were found to be higher within managed subwatersheds than reference watersheds. Route densities in RCAs are also higher in managed subwatersheds than reference subwatersheds. The Forest may also be seeing a continued effect on conditions and scores from a legacy of management activities that occurred before the revised Forest Plan in 2003.

As to whether or not a change in Forest Plan direction is needed, more resampling of PIBO sites is needed to better detect trend in stream conditions. It is recommended that the Forest continue to implement current Forest Plan direction as well as continue to fund additional monitoring of PIBO sites. As funding allows, the Forest should review select subwatersheds that have poorer physical index and O/E scores to determine what are the causal factor(s) for the apparent degraded conditions and to aid in determining what actions can be taken to improve watershed conditions. Subwatersheds that have a highWARS priority, but poorer index scores should be reviewed first (Table 17). The Forest Plan requires that the Watershed and Aquatic Restoration Strategy (WARS) be update biennially. Updates to the WARS should include consideration of both O&E and physical index scores in determining watershed restoration priorities.

Table 17 – PIBO Index Scores and WARS Priorities.

Scores	# Subwatersheds in Low Priority	# Subwatersheds in Moderate Priority	# Subwatersheds in High Priority	# Subwatersheds in ACS Priority
O/E < 0.78/Physical <40	4	11	7	6
O/E < 0.78/Physical 40-70	2	2	9	5
O/E < 0.78/Physical >70	1	2	1	2
O/E > 0.78/Physical <40	3	2	3	0
O/E > 0.78/Physical 40-70	10	3	16	14
O/E > 0.78/Physical >70	2	1	9	5

Additionally, as currently written, several of the objectives in the Soil, Water, and Aquatics section of the Forest Plan forest-wide direction are redundant and could be combined to more clearly and concisely describe restoration objectives. More specifically, objectives SWOB03, SWOB16 and SWOB18 address the need to restore degraded upland and aquatic conditions needed to support native and desired non-native aquatic species. These objectives could be combined. Similarly, SWOB12, SWOB13 and SWOB14 all describe determining restoration opportunities during fine-scale analyses and could be easily combined in to one objective.

Forest Plan Element No: 40

Activity, Practice, or Effect to Be Measured: Noxious weed management
Representative Forest Plan Management Direction:

- NPOB01 - Maintain, and use current field data to update, the Forest-wide database and map library of current status of noxious weed infestations, treatment activities, and locations of newly established infestations.
- NPOB03 - Develop strategic noxious weed management plans for Coordinated Weed Management Areas. Cooperate on a regular basis with federal agencies, tribal governments, the State of Idaho, county weed organizations, state and local highway departments, and private individuals in establishing Coordinated Weed Management Area strategic priorities, and locating and treating noxious weed species.

Monitoring Question: Are Forest management strategies effective in controlling, containing or eradicating established non-native invasive plant populations?

Indicator: Acres of known infestation

Methodology: Inventories, treatment and EDRR surveys. Infestation data recorded in NRIS Terra database.

Monitoring Results/Discussion:
The Forest utilizes the FACTS database as a reporting tool for the treatment of noxious weeds and NRIS Invasives as the infestation management database. Forest -wide, noxious weed infestations are evaluated annually; new infestations are identified, mapped and treated while previous infestation sites are revisited, evaluated, and treated as needed. Treatment areas are prioritized annually with highest the priority assigned to those areas previously treated in an attempt to eradicate treated populations, followed by newly identified individual plants or populations in an attempt to keep them from becoming an established infestation. This information is recorded in the appropriate database for evaluation and upward reporting.

All districts on the Forest are currently engaged with local county, state, and federal agencies Coordinated Weed Management Areas (CWMA's) as well as efforts to promote weed awareness education and identification with the public. Participation in local county fairs includes weed identification and detection information, prevention methods, and information on Forest weed-free hay requirements. In 2009, noxious weed awareness presentations were made to local ATV groups, along with handouts including the University of Idaho Extension weed identification guides and the Sawtooth NF Report-A-Weed card. The Forest is committed to weed detection and treatment: annually, funds are utilized for weed treatment crew personnel, equipment, and herbicide on each district, with sharing across district boundaries as needed.

Table 18 below displays the acres treated and monitored annually. Acres treated include herbicide treatments, as well as biological control acres for diffused and spotted knapweed and leafy spurge. Treatment efficacy was determined by revisiting a percentage of the treated acres to determine how effective treatments were in killing targeted plants.

Table 18: Annual Weed Treatments

Treatment Year	Acres Treated	Acres Monitored	Treatment Efficacy
2004*	3,806		
2005*	4,538		
2006	4,216	1,041	85%
2007	3,687	1,789	76%
2008	4,967	4,248	77%
2009	6,173	5,464	65%

*2004 figures and 2005 figures were not available in the FACTS database; therefore acres monitored and treatment efficacy is not available for those years. The FACTS database was not used as a reporting database until 2006.

Recommend "Need for Change" in Forest Plan Direction?
The Forest does have an active and effective noxious weed treatment program. Forest Plan direction provides strong direction and support for that program and there are no identified needs for change. The primary limiting factor in allowing the Forest to be more effective in addressing noxious weed infestations is budget. The Forest treats as many acres possible each year given the allocated budget. Unfortunately, the allocated budget only allows the Forest to treat a small percentage of known infestations.

Forest Plan Element No: 42

Activity, Practice, or Effect to Be Measured: Cooperation in management of non-native invasive plant species

Representative Forest Plan Management Direction:

- NPOB02 - Designate Coordinated Weed Management Areas on Sawtooth National Forest System lands.
- NPOB03 - Develop strategic noxious weed management plans for Coordinated Weed Management Areas. Cooperate on a regular basis with federal agencies, tribal governments, the State of Idaho, county weed organizations, state and local highway departments, and private individuals in establishing Coordinated Weed Management Area strategic priorities, and locating and treating noxious weed species.

Monitoring Question: Is the Forest managing non-native invasive plant species in a cooperative manner with other agencies, land managers, and land owners and users associated with NFS lands?

Indicator: Acres of the Forest included in cooperative weed management areas; list of cooperators participating in CWMAs and other Forest weed management activities

Methodology: Not specified

Monitoring Results/Discussion:
As described in the response to element 40 above, all districts on the Forest are currently engaged with local county, state, and federal agencies CWMA's as well as efforts to promote weed awareness education and identification with the public. The Forest is committed to weed detection and treatment. Annually, noxious weed treatment funds are utilized for weed treatment crew personnel (an average 10 individuals/year), equipment, and herbicide on each district. Weed treatment crews are shared across District boundaries to reduce costs and improve efficiencies.

Currently, the entire Sawtooth NF is covered under existing CWMA's. Table 1 in the annual monitoring section of this report lists the number of acres of noxious weeds that have been treated annually by District. The data in Table 1 shows that the number of acres treated on the Ketchum District in 2008-2009 increased by approximately 60%. This increase in acres treated can be attributed to rehabilitation funds received by the Forest specifically to treat the Castle Rock fire burned areas. Another noteworthy discussion is the leafy spurge infestation on the Fairfield District. Approximately 14,000 acres of Forest, State and private lands infested with leafy spurge, Rush skeletonweed, diffuse knapweed, spotted knapweed, St John's wort, houndstongue, Canada thistle, dalmatian toadflax, oxeye daisy, field bindweed, and hoary alyssum are being treated are being treated with biological agents through an interagency cooperative effort utilizing volunteers.

CWMA participants include Camas Creek, Blaine County, Boise Basin, Custer County, Goose Creek, Onieda County, Power County, Box Elder County (Raft River), South Fork – Boise River, Shoshone Basin, and Upper Payette, as well as Bureau of Land Management personnel from Burley, Twin Falls, and Shoshone offices. Other cooperators include Boise NF, Payette NF, Salmon-Challis NF, Idaho Department of Lands, local RC&D offices, Idaho Department of Transportation, Idaho Department of Fish and Game, Blaine County Recreation, Wood River Land Trust, Nature Conservancy, Lava Lake Land & Livestock, Flattop Sheep Company, Fish Creek Canal Company, Little Wood Irrigation District, and various private individuals. In addition, the Cities of Ketchum, Sun Valley, Hailey, Bellevue, and Carey are contributors to the CWMA efforts. Annual reports of CWMA programs are available from the State of Idaho Department of Agriculture (website: http://www.agri.state.id.us/Categories/PlantsInsects/NoxiousWeeds/EOY_Reports.php).

Recommend "Need for Change" in Forest Plan Direction?
As demonstrated in the monitoring discussion above, the Forest does have a strong/effective cooperative program for management of noxious weeds and as such there is no identified need for change in management direction. Again, the primary limiting factor in allowing not only the Forest but cooperators as well, to be more effective in addressing noxious weed infestations is budget. The Forest treats as many acres possible each year given the allocated budget. Unfortunately, the allocated budget only allows the Forest to treat a small percentage of known infestations.

Forest Plan Element No: 44

Activity, Practice, or Effect to Be Measured: Total Sale Program Quantity, which includes Allowable Sale Quantity

Representative Forest Plan Management Direction:

- TROB01 - Provide timber harvest, and related reforestation and timber stand improvement activities, to contribute toward attainment of desired vegetation conditions. Annually, during the next 10 to 15 years:
- a) harvest timber, other than salvage, on an average of approx. 2,000 acres
- b) reforest an average of approx. 480 acres, and
- c) complete timber stand improvement activities on an average of aprox. 300 acres
- TROB01 – Make available an estimated 60 million board feet of timber for the decade, which will contribute to the Allowable Sale Quantity (ASQ).
- TROB03 – Utilize wood products (e.g., fuelwood, post, poles, house logs, etc.) generated from vegetation treatment activities, on both suited and not suited timberlands to produce and estimated 69 million board feet of volume for the decade.

Monitoring Question: Are prescriptions implemented to achieve management objectives meeting the expected outcomes for timber production?

Indicator: Tracking acres treated (e.g., thinned, harvested, planted) and associated volumes.

Methodology: Annually, via MARS reports, Sale Tracking and Reporting System (STARS), Timber Information Manager (TIM) and Timber Sale Accounts (TSA).

Monitoring Results/Discussion:
The monitoring results/discussion for element 44 used the PTSAR reports for years 2004-2008 to determine the volume sold for those 5 years. The FACTS web report from Region 8 was used to come up with acres for the reforestation and timber stand improvement activities.

During the five year reporting period, the Forest sold 2.5 million board feet of timber from suitable lands that contributed to the Allowable Sale Quantity (ASQ). The Forest sold an additional 22.1 million board feet from unsuitable lands. The total timber sold from both suited and unsuited land gave the Forest a Total Sale Program Quantity (TSPQ) of 24.6 MMBF for the five year period.

The Forest reforested 509 acres and performed timber stand improvement activities on 755 acres over the 5 year period. That is an average of 102 acres per year of reforestation and 151 acres per year of timber stand improvement activities.

The Forest harvested timber on 743 acres over the five year period that were not salvage sales for an average of 149 acres per year.

Recommend "Need for Change" in Forest Plan Direction?
The Forest has been dealing with a mountain pine beetle epidemic on the SNRA which is why the Forest has treated large numbers of acres on unsuitable lands. This is why the ASQ is so low

for the 5 year period and also why the acres treated by non-salvage timber sales is so low. The Forest should complete the salvage efforts on the Sawtooth NRA in the next two years. Once this is completed the focus of the Forest timber program will shift to treatments on suitable lands and will be green sales for the most part. Therefore, there is no need to adjust the acres treated under TROB01 or change the ASQ in TROB02.

Forest Plan Element No: 45

Activity, Practice, or Effect to Be Measured: Head Months Under Permit

Representative Forest Plan Management Direction:

- RAOB03 - During fine-scale analyses where rangeland facilities are identified as a potential concern or problem contributing to degrading resource conditions within the analysis area, identify rangeland facilities that are degrading resource conditions and prioritize opportunities to mitigate their effects or to initiate restoration of resource conditions.

Monitoring Question: Are Forest Plan goals, objectives, standards and guidelines affecting the number of head months associated with term grazing permits?

Indicator: Billing and annual operating plans; allotment grazing module from IIT process

Methodology: INFRA

Monitoring Results/Discussion (use separate page(s) if necessary):
Due to a vacancy in the Range Program manager position on the Forest, an evaluation of this element has not yet been completed. Once the position is filled, this evaluation will be completed and the results reported in either the 2011 or 2012 annual monitoring report.

Recommend "Need for Change" in Forest Plan Direction? Why or Why Not? If Yes, What Should be Changed?

Forest Plan Element No: 46

Activity, Practice, or Effect to Be Measured: Range improvements

Representative Forest Plan Management Direction: None identified

Monitoring Question: Are range improvements being adequately maintained and serving their intended design?

Indicator: Field inspection of improvements based on assigned maintenance standards

Methodology: Selected sample from improvements on allotments administered to standard. Condition recorded in INFRA; maintenance reported in annual compliance report

Monitoring Results/Discussion (use separate page(s) if necessary):
Due to a vacancy in the Range Program manager position on the Forest, an evaluation of this element has not yet been completed. Once the position is filled, this evaluation will be completed and the results reported in either the 2011 or 2012 annual monitoring report.

Recommend "Need for Change" in Forest Plan Direction? Why or Why Not? If Yes, What Should be Changed?

Forest Plan Element No: 47

Activity, Practice, or Effect to Be Measured: Forage Utilization Levels

Representative Forest Plan Management Direction:

- RAGO01 - Provide for livestock forage within existing open allotments, in a manner that is consistent with other resource management direction and uses.
- RAGO04 - Manage herbaceous and shrub vegetation on suitable rangelands to meet resource objectives in an efficient manner.
- RAGO05 - Manage livestock grazing within riparian areas to accommodate the maintenance or restoration of aquatic and riparian processes and functions.

Monitoring Question: Are established utilization levels providing for desired ground cover, soil stability, plant vigor and composition?

Indicator: % ground cover for uplands, % bank stability in riparian areas; % utilization in uplands and stubble height in riparian. Acres meeting/moving toward desired condition in INFRA database.

Methodology: Review up to 10 percent of active allotments (allotments administered to standard). Measure use levels annually; ground cover and bank stability every 3-5 years.

Monitoring Results/Discussion:
Due to a vacancy in the Range Program manager position on the Forest, an evaluation of this element has not yet been completed. Once the position is filled, this evaluation will be completed and the results reported in either the 2011 or 2012 annual monitoring report.

Recommend "Need for Change" in Forest Plan Direction?

Forest Plan Element No: 48

Activity, Practice, or Effect to Be Measured: Effectiveness of the allotment management system

Monitoring Question: Are current allotment management strategies effective in meeting or moving toward desired vegetation conditions for non-forested vegetation types?

Representative Forest Plan Management Direction:

- RAGO04 - Manage herbaceous and shrub vegetation on suitable rangelands to meet resource objectives in an efficient manner.
- RAGO05 - Manage livestock grazing within riparian areas to accommodate the maintenance or restoration of aquatic and riparian processes and functions.

Indicator: Grazing Response Index: Frequency (duration of grazing); intensity (use levels); and opportunities (growing periods).

Methodology: Review up to 10 percent of allotments (allotments administered to standard). Reported in annual compliance report.

Monitoring Results/Discussion:
Due to a vacancy in the Range Program manager position on the Forest, an evaluation of this element has not yet been completed. Once the position is filled, this evaluation will be completed and the results reported in either the 2011 or 2012 annual monitoring report.

Recommend "Need for Change" in Forest Plan Direction?

Forest Plan Element No: 49

Activity, Practice, or Effect to Be Measured: Research Natural Areas

Representative Forest Plan Management Direction:

- RNGO01: Maintain values for which the RNAs were established, as identified in the establishment records.
- RNOB01: Develop and implement management plans for established RNAs.

Monitoring Question: Have management plans been developed for Research Natural Areas that currently lack them?

Indicator: Number of management plans completed

Methodology: Not specified

Monitoring Results/Discussion:
There are currently 7 RNAs on the Sawtooth NF. Six of the seven had establishment reports completed in 1996. The other RNA, Basin Gulch, had its establishment report completed in 1982. Management plans are included as part of the establishment reports.

In accordance with the management plans for all of the RNAs, livestock grazing, commercial timber harvest, special use permits, firewood gathering and motorized use are not allowed within

the RNAs. Recreation use is not encouraged within the RNAs. Noxious weed treatment is allowed but must be specific to the target organism. All of the management plans address wildfire suppression and the use of prescribed fire. Two of the RNAs, the Redfish RNA and the Pole Canyon RNA, recommend the use of prescribed fire to protect and maintain Douglas fir stands. No prescribed fire use is allowed within the Sawtooth peatlands RNA, and wildfires are to be suppressed within the RNA.

Recommend "Need for Change" in Forest Plan Direction?
As described above, all of the RNAs on the Sawtooth do have establishment reports with management plans. The intent of establishing RNAs is to protect the ecological values for which they were established. One important aspect of establishing RNAs is monitoring activities occurring with or adjacent to RNAs to insure that activities are not directly or indirectly modifying ecological processes within the RNAs. Given this, it is recommended that the question addressed through this monitoring element be changed to: "Are management activities occurring within or adjacent to RNAs that are affecting natural ecological processes within RNAs?" The indicator would be Number and types of activities occurring within or adjacent to RNAs.

Forest Plan Element No: 50

Activity, Practice, or Effect to Be Measured: Research Natural Areas

Representative Forest Plan Management Direction:

- RNGO02 - Look for opportunities to establish additional RNAs in high priority areas.
- RNOB02 - Consider recommending additional RNAs based on high priority needs as identified by, *The Representativeness Assessment of Research Natural Areas on National Forest System Lands in Idaho*.

Monitoring Question: Have additional RNAs been recommended for establishment?

Indicator: Number of RNAs recommended for establishment

Methodology: None specified

Monitoring Results/Discussion:
There are currently seven RNAs on the Sawtooth NF all of which have completed establishment reports. Since implementation of the Plan, no additional RNAs have been recommended.

Recommend "Need for Change" in Forest Plan Direction?
Both RNGO02 and RNBO02 provide direction to consider opportunities to establish additional RNAs. While no opportunity for additional RNAs was identified during the first 5 years of plan implementation, additional RNAs could be identified sometime in the future. Therefore, there is no need to change Forest Plan direction relative to the identification of additional RNAs.

V. CONCLUSION

Evaluation of the results of the first five years of Forest Plan implementation indicates that, for the most part, the Forest is making good progress towards meeting Forest Plan objectives. As described throughout the analysis, budget appears to be the primary factor limiting progress on achievement of objectives. Restoration projects are being implemented in high priority areas and are improving degraded conditions and moving the Forest towards desired conditions.

The Forest did identify that additional monitoring data is needed to better address some issues including condition of seeps and springs. In response to this issue, the Forest developed a protocol for inventorying condition of seeps and springs. The protocol is being tested at sites across the Forest in 2011 and will be refined in the fall for use in the 2012 field season. The Forest also acknowledged that additional years of data are needed to make a more statistically valid assessment of population trends of MIS, and that there is a need to add two additional species as MIS.

As discussed several times in the report, the Forest is currently in the process of amending the Forest Plan to adopt a wildlife conservation strategy WCS for forested vegetation. This amendment will include a vegetation and restoration strategy and prioritization. As part of the WCS amendment, the multi-scale analysis completed for the 2003 Forest Plan revision was updated to reflect current condition and address new information generated after release of the 2003 revised Forest Plan. Through the WCS wildlife standard WIST01 will be replaced with standards that focus on size class, canopy cover and composition specific to individual PVGs identified to be in need of restoration rather than a one-size fits all standard. Forest Plan appendices A – Vegetation and E – Wildlife and Fish, will be updated to better reflect current conditions, new information and priorities for restoration. The updated Appendix E will also reflect the addition of goshawk and Yellowstone cutthroat trout as management indicator species. The Forested WCS is expected to be released in early 2011.

In addition to the changes resulting from the WCS, the following needs for change were identified. Recommended changes in monitoring elements will be made through the publication of this report. Recommended changes in management direction will be made through either upcoming plan amendments associated with the WCS, through other future NEPA analyses, or as funding allows.

- Replace the monitoring question for Element 8 with the following:
    - Are administrative sites, including drinking water sources, safe for visitors and employees?
- The indicator for Element 10 - Miles maintained by maintenance class, and condition surveys – should be replaced with National Visitor Use Monitoring Results
- Monitoring elements 11 should be dropped as the Element 12 provides a more specific and accurate evaluation of recreation program management across the Forest than is provided by Element 11.
- Revise the ROS base maps to incorporate the National ROS Inventory Mapping Protocol.

- The Activity, Practice, or Effect to Be Measured for Element 20, should be changed from "Stewardship of historic properties" to Heritage Program Managed to Standard as outlined by the Forest Service Washington Office in 2010.
- Modify Forest Plan standard RAST03 to read: New water developments, corrals, and other handling or loading facilities shall not be located within RCAs unless it can be demonstrated that these facilities maintain or allow for restoration of beneficial uses and native and desired non-native fish habitat *(same as current standard)*. Replaced existing water developments or facilities will be moved out of RCA unless no other options exist or it can be demonstrated that these facilities maintain or allow for restoration of beneficial uses and native and desired non-native fish habitat.
- Combine Soil, Water, Riparian and Aquatic Resources objectives SWOB03, SWOB16 and SWOB18 which address the need to restore degraded upland and aquatic conditions needed to support native and desired non-native aquatic species, into one comprehensive objective.
- Combine Soil, Water, Riparian and Aquatic Resources objectives SWOB12, SWOB13 and SWOB14 which all describe determining restoration opportunities during fine-scale analyses into one comprehensive objective.
- Change the monitoring question and indicator for Element 49 as follows:
    - Monitoring question - Are management activities occurring within or adjacent to RNAs that are affecting natural ecological processes within RNAs?
    - Indicator - Number and types of activities occurring within or adjacent to RNAs.

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